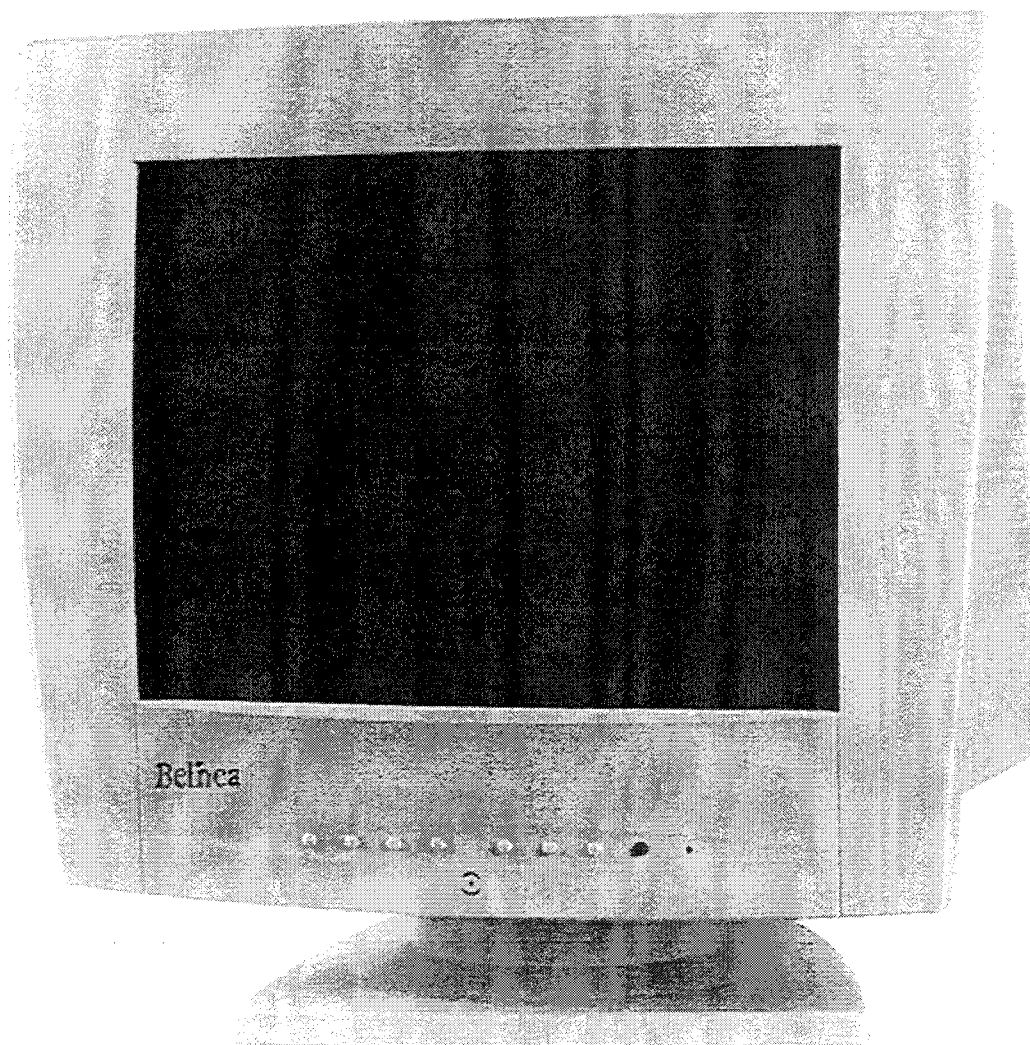


# **Color Monitor Service Manual**



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# DISASSEMBLY INSTRUCTIONS

## CABINET BACK REMOVE (Figure 3)

1. Remove the screws located on the back cover of the monitor bottom.
2. Gently slide the rear cover backwards until free of the monitor chassis.

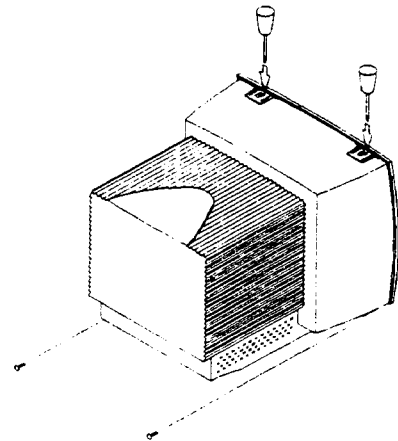


Figure 3

## MAIN PCB REMOVAL (Figure 4)

1. Discharge the residual high voltage from the CRT Anode through a 100K $\Omega$  resistor to the flyback Transformer mounting bracket.
2. Remove the Anode Cap from the CRT.
3. Remove all connectors and jacks from the Main PCB.
4. Gently slide the Main PCB backwards until free of the mounting brackets. Be careful not to damage the switches and control shafts.

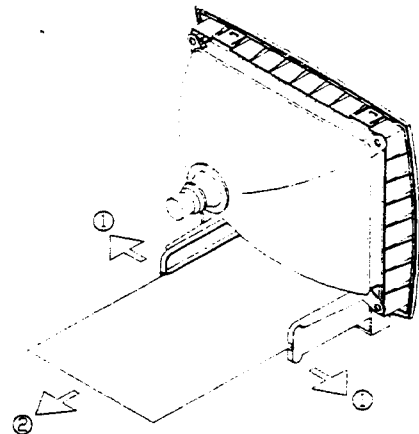


Figure 4

## CRT REMOVAL (Figure 5)

1. Place the monitor face down on a soft surface.
2. Remove the CRT and place it on a soft surface.

**NOTE:** Do not move the deflection yoke and magnet assembly attached to the CRT neck. Handle these assembly carefully to avoid damaging them.

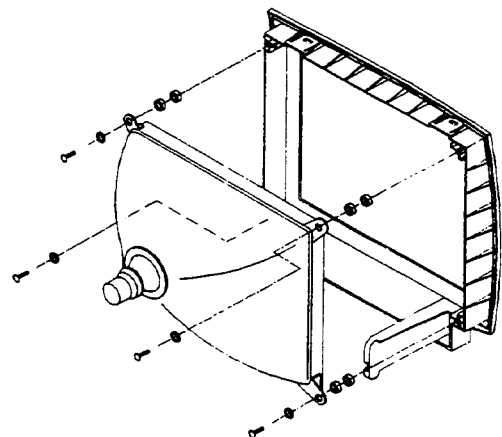


Figure 5

## SPECIFICATIONS

- Picture Tube:                      Visible Size                      : 17" diagonal  
   Deflection                      : 90 degree deflection  
   Dot Pitch                      : 0.28mm  
   Phosphor                      : P22
- Input Signal:                      Video                      : Analog  
   Sync                      : Separate TTL level
- Scanning Frequency:           Horizontal                      : 30 - 68 KHz  
   Vertical                      : 47 - 120 Hz
- Display Area:                      Horizontal                      : 300 ± 5 mm (STANDARD MODE)  
   Vertical                      : 225 ± 5 mm
- Bandwidth:                      85 MHz ( -3dB )
- Resolution:                      1280 x 1024/60 Hz(NI)
- Power Source:                      100 to 240 Vac 60/50 Hz
- Power Consumption:           120 W ( MAX )
- Input Connector:                D-15 PIN
- Display Color:                      Limited only by the VGA Card
- Front Control:                      8 Tack SW
- Rear Control:                      Power SW
- Environment:                      Operating Temperature           : 0°C to 40°C  
   Operating Humidity               : 20% to 80%  
   Nonoperating Temperature      : -20°C to 65°C  
   Nonoperating Humidity           : 10% to 85%
- Dimensions:                      426mm(W)x443mm(H)x425mm(D)(With Base)
- Weight:                              Approx. 17 Kgs(NET)

LOCATION OF CONTROLS

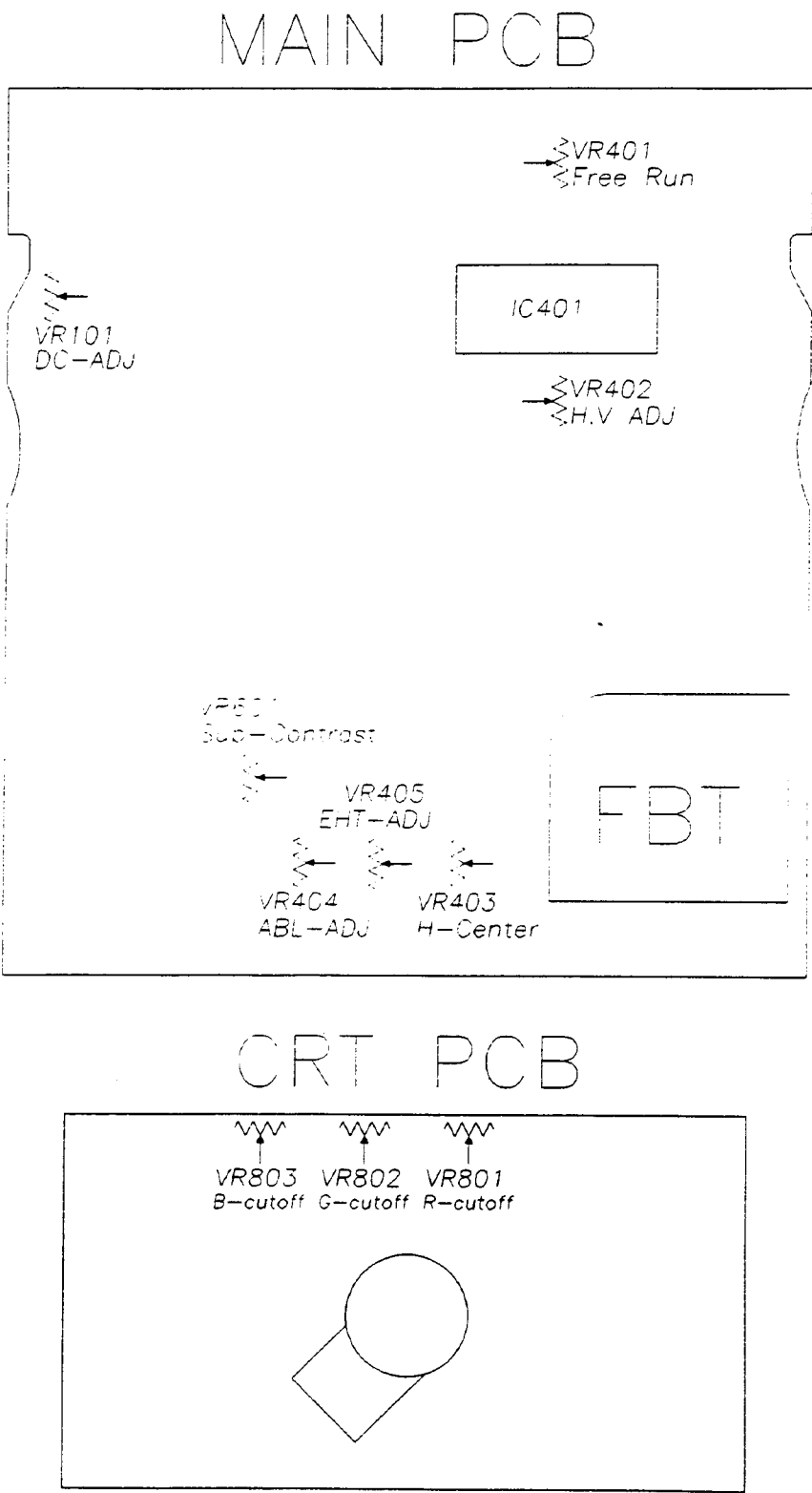


Figure 6

# THEORY OF OPERATION

## 1. VIDEO AND OSD(On Screen Display) AMPLIFIER

IC601 (LM1281) is a full feature video amplifier with OSD input.

Pin 1, 2, 3 is R, G, B OSD input.

Pin 5, 8, 11 is R, G, B video input.

Pin 23, 20, 18 is R, G, B video output.

The video signal from IC output is fed into the cascade-type video power amplifier.

## 2. DEFLECTION PROCESS AND HIGH-VOLTAGE GENERATION CIRCUIT

IC401 (TDA9103) is to control all the functions related to the horizontal and vertical deflection in a multimodes monitor. It's main functions are:

Positive or Negative sync polarities.

Auto-sync horizontal processing.

Auto-sync vertical processing.

East/West signal processing block.

H-PLL lock/unlock identification.

Safety blanking output.

T401, Q402, Q403, T403, IC401, C458, C459, C460, D415, D416 are used for high-voltage generation output.

## 3. VERTICAL DEFLECTION OUTPUT CIRCUIT

IC301 (TDA8172) is a TV vertical deflection output circuit. It's main function are:

Power amplifier.

Flyback generator.

Thermal protection.

## 4. MONITOR ON SCREEN DISPLAY

IC204 (XC141540 or MTV004) is a micro controller unit to allow colored symbols or characters to be displayed onto monitor screen.

## 5. MICRO-CONTROLLER

IC201 (68P639A) is an HCMOS micro-controller unit with dedicated peripherals for TV and Monitor applications. It's main function are:

Include Run, Wait, and Stop Modes.

8Kx8 ROM, 256x8 RAM

Sync Processor for video timing analysis

Watchdog for system reliability and integrity.

12 8-bit PWM/BRM Digital to Analog outputs.

## 6. SWITCHING POWER SUPPLY

AC power is rectified by D101, then filtered by C107.

Power is transferred by T101 to the secondary circuit.

IC101 and IC404 control and stabilize the output voltage.

VR101 adjusts the output voltage.

VR402 adjusts the DC to DC output voltage.

Q102 is the over voltage protector.

- color.)
5. Press  $+$  or  $-$  to adjust Vertical size =  $225 \pm 5$  mm.
  6. Set Contrast to MIN.
  7. Set Brightness to make raster = 0 FL.
  8. Connect Digital Voltmeter between IC404 pin 1 and GND.
  9. Turning VR405 and checking  $V_{TP3} = 9.0 \pm 0.2V_{DC}$ .

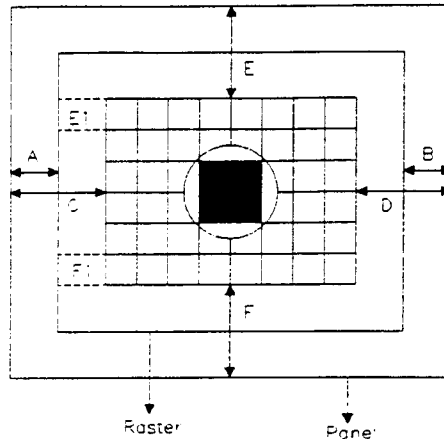


Figure 7


(6) MODE 13 (64 KHz) CHECK

1. X-RAY test: short D421 to check X-RAY circuit (screen shut down).
2. Adjust VR403 let  $A-B = 0 \pm 1$  mm (See Fig 7).


(7) DYNAMIC FOCUS CHECK

1. Connect Scope between FBT PIN 12 and GND.
2. Check Vertical Frequency Pallabola wave =  $150 V_{pp} \pm 20 V_{pp}$ .
3. Check Horizontal Frequency Pallabola wave =  $380 V_{pp} \pm 100 V_{pp}$ .


(8) VERTICAL SIZE ADJUSTMENT

1. Set Video Signal Generator to MODE 1 (Crosshatch Pattern) and input to monitor. (Mode may be changed 1 to 13 in sequence)
2. Repeatedly press  $<$  or  $>$  key to select Vertical size. (The  symbol changes color.)
3. Press  $+$  or  $-$  to adjust Vertical size =  $225 \pm 2$  mm.

(9) VERTICAL CENTER ADJUSTMENT

1. Set Video Signal Generator to MODE 1 (Crosshatch Pattern) and input to monitor. (Mode may be changed 1 to 13 in sequence)
2. Repeatedly press  $<$  or  $>$  key to select Vertical center. (The  symbol changes color.)
3. Press  $+$  or  $-$  to adjust Vertical center  $\leq 2$  mm. (See Fig 7,  $|E-F| \leq 2$  mm)

(10) HORIZONTAL WIDTH ADJUSTMENT


1. Set Video Signal Generator to MODE 1 and input to monitor. (Mode may be changed 1 to 13 in sequence)
2. Repeatedly press  $<$  or  $>$  key to select Horizontal width. (The  symbol changes color.)

# ELECTRICAL ADJUSTMENT

## (1) BEFORE ADJUSTMENT

1. Equipment:  
Video Signal Generator (Quantum Data Model 903/Chroma Model 2135)  
Personal Computer or VGA card  
Color Analyzer (MINOLTA CA-100)
2. Set all SVR to half (The SVR SET on central point).
3. AC power input: 100 to 240 Vac 60/50 Hz.
4. Check item: MODE 1 to MODE 13 (refer Page 10,11,12).
5. Before starting adjust each item making sure the MODE and Timing is matched with each adjustment item.


## (2) B+(14V) ADJUSTMENT (VR101)

1. Input voltage 110Vac to monitor.
2. Set Video Signal Generator to MODE 2 (31 KHz) and input to monitor.
3. Set Brightness and Contrast to MIN.
4. Repeatedly press < or > key to select Horizontal width. (The  symbol changes color.)
5. Press + or — to adjust Horizontal width =  $300 \pm 5$  mm.
6. Turn FBT screen VR to make raster = 0 FL.
7. Connect Digital Voltmeter between D112 negative and GND.
8. Adjust B+ to 14.2V( $\pm 0.1$ V) by turning VR101.
9. Check  $V_{D113(N)} = 7.2 \pm 0.3 V_{DC}$ ,  $V_{D111(N)} = 48 \pm 1.5 V_{DC}$ ,  $V_{D115(N)} = 80 \pm 1.5 V_{DC}$ ,  
 $V_{D114(P)} = -12 \pm 0.3 V_{DC}$ .



## (3) HORIZONTAL-FREE-RUN ADJUSTMENT (VR401)

1. No video signal input.
2. Adjust VR401 to let FBT pin 8 =  $36 \mu S \pm 0.5 \mu S$  (27.4 KHz ~ 28 KHz).

## (4) HIGH VOLTAGE ADJUSTMENT (VR402)

1. Set Video Signal Generator to MODE 2 (31 KHz) and input to monitor.
2. Connect High Voltage Meter between Anode Cap and GND.
3. Repeatedly press < or > key to select Horizontal width. (The  symbol changes color.)
4. Press + or — to adjust Horizontal width =  $300 \pm 5$  mm.
5. Set Brightness to make raster = 0 FL.
6. Set Contrast to MIN.
7. Adjust VR402 to let High voltage =  $25.5 \pm 0.1$  KV.
8. Set Video Signal Generator to MODE 13 (64 KHz) and input to monitor.
9. Check High voltage value in -0.3KV ~ -0.5KV.

## (5) EHT ADJUSTMENT (VR405)

1. Set Video Signal Generator to MODE 2 (31 KHz) and input to monitor.
2. Repeatedly press < or > key to select Horizontal width. (The  symbol changes color.)
3. Press + or — to adjust Horizontal width =  $300 \pm 5$  mm.
4. Repeatedly press < or > key to select Vertical size. (The  symbol changes



3. Press  $\odot$   $\wedge$  or  $\vee$  to show the contrast adjustment window of OSD message.
4. Press  $+$  or  $-$  to let OSD position in the picture center.

(18) RASTER WHITE BALANCE (RASTER COLOR TEMPERATURE) ADJUSTMENT

1. Set Video Signal Generator to MODE 2 (31 KHz Raster Pattern) and input to monitor.
2. Repeatedly press  $<$  or  $>$  key to select Degussing. (The  $\mathcal{R}$  symbol changes color.)
3. Press the key  $+$  to correct display distortion or discoloration due to magnetic field interference.
4. Turn VR801(R-cutoff), VR802(G-Cutoff), VR803(B-Cutoff) clockwise to end.
5. Adjust the Screen VR of FBT until the raster can be visible.
6. Check the picture showing what kind of color is.
7. Adjust the VR (VR801 or VR802 or VR803) without showing the color on the picture until the color analyzer appears:  
 $x = 0.281 \pm 5 \%$   
 $y = 0.311 \pm 5 \%$
8. Adjust the Screen VR of FBT to let raster = 1.0 ~ 1.2 FL.
9. Check the raster keep in range 1.0 ~ 1.4 FL. When adjust raster color temperature.
10. Check Item 5. ~ 8. again.

(19) WHITE BALANCE (COLOR TEMPERATURE) ADJUSTMENT

1. Set Video Signal Generator to MODE 3 (31 KHz Bright Pattern) and input to monitor.
2. Set the Contrast  $Y = 10 \sim 15$  FL.
3. Set the Brightness to MIN.
4. Repeatedly press  $<$  or  $>$  key to select R-gain and G-gain. (The  $\odot$  symbol changes color.)
5. Adjust  $-$  and  $+$  keys until the color analyzer appears:  
 $x = 0.281 \pm 5 \%$   
 $y = 0.311 \pm 5 \%$
6. Set the Contrast to MAX and check the color temperature. If color temperature over the specification, repeat steps 2. ~ 11.
7. Set the Contrast to MIN and check the screen is gray.
8. Set the Contrast to MAX and check the screen is full white.
9. Check color bar pattern.
10. VR601 is for sub-contrast adjustment.

(20) BRIGHTNESS ADJUSTMENT

1. Set Video Signal Generator to MODE 2 (31 KHz Raster Pattern) and input to monitor.
2. Make sure video input =  $0.7 V_{p.p.}$
3. Set the Contrast to MIN and the Brightness to Max.
4. Check raster = 1.0 ~ 1.4 FL by adjust FBT screen VR).
5. Press  $\odot$   $\vee$  key let raster =  $1.0 \pm 0.05$  FL.
6. Set to full white pattern, check CRT center picture = 1.5 ~ 3 FL.
7. Set Contrast to Max.
8. Set 1-MOSAIC(3") pattern.

3. Press  $+$  or  $-$  to adjust Horizontal width =  $300 \pm 3$  mm.

(11) HORIZONTAL PHASE ADJUSTMENT

1. Set Video Signal Generator to MODE 1 and input to monitor. (Mode may be changed 1 to 13 in sequence)
2. Repeatedly press  $<$  or  $>$  key to select Horizontal phase. (The  $\boxplus$  symbol changes color.)
3. Press  $+$  or  $-$  to adjust Horizontal phase  $\leq 2$  mm. (See Fig 7,  $|C-D| \leq 2$  mm)

(12) PINCUSHION ADJUSTMENT

1. Set Video Signal Generator to MODE 1 (Crosshatch Pattern) and input to monitor. (Mode may be changed 1 to 13 in sequence)
2. Repeatedly press  $<$  or  $>$  key to select Pincushion. (The  $\boxtimes$  symbol changes color.)
3. Press  $+$  or  $-$  to let  $X \leq 2.0$  mm (See Fig 14).

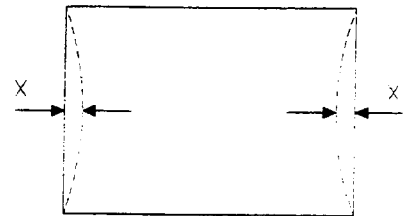


Figure 8

(13) TRAPEZOID ADJUSTMENT

1. Set Video Signal Generator to MODE 1 (Crosshatch Pattern) and input to monitor. (Mode may be changed 1 to 13 in sequence)
2. Repeatedly press  $<$  or  $>$  key to select Pincushion. (The  $\Delta$  symbol changes color.)
3. Press  $+$  or  $-$  to let  $Y \leq 2.0$  mm (See Fig 15).

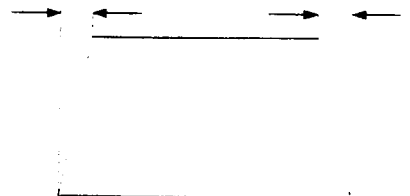


Figure 9

(14) ROTATION(TILT) ADJUSTMENT

1. Set Video Signal Generator to MODE 1 (Crosshatch Pattern) and input to monitor. (Mode may be changed 1 to 13 in sequence)
2. Repeatedly press  $<$  or  $>$  key to select Pincushion. (The  $\mathbf{T}$  symbol changes color.)
3. Press  $+$  or  $-$  to let Rotation  $\leq 1.5$  mm.

(15) SAVE FUNCTION

1. The monitor provides auto save function to save item(8) ~ (14) settings change. The auto save function acts when
  - i. Mode and adjustment change immediately.
  - ii. Mode persists and function adjustment changes at 10 seconds later.
2. FOR TECHNICIAN ONLY : The monitor provides another save methode to save settings into factory standard area of EEPROM for technician only.
  - i. Factory standard area of EEPROM has stored the factory settings for user recall.
  - ii. If it is necessary to change the EEPROM factory standard area's setting, press  $-$ ,  $+$  &  $\odot \wedge$  simultaneously when showing the frequency OSD picture.

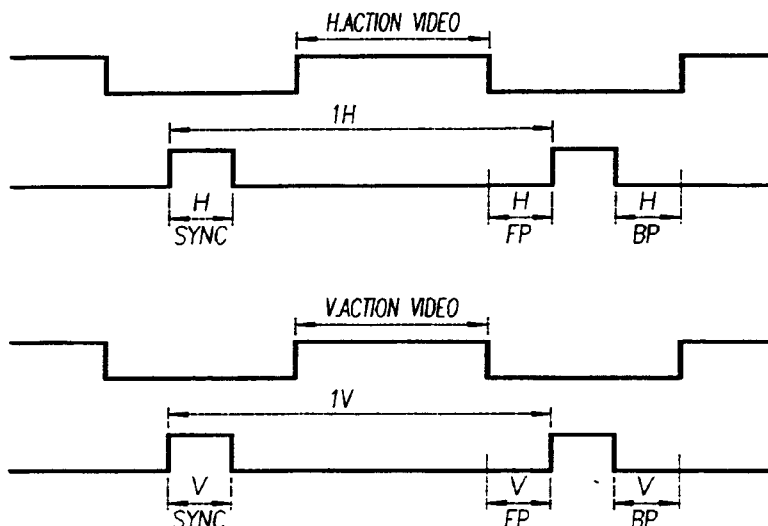
(16) REPEAT ITEM (8) TO (14) AND CHANGE MODE 1 TO 13 IN SEQUENCE

(17) OSD ADJUSTMENT

1. Press  $\odot \wedge$  or  $\vee$  to show the brightness adjustment window of OSD message.
2. Press  $+$  or  $-$  to let OSD Height =  $42 \pm 3$  mm.

## DISPLAY MODE & TIMING CHART

This monitor provides 13 preset modes for match normal display card and 12 user's modes for special display card. As below chart and table are showing the detail value of preset mode. Please service technician accords table to set video signal generator for input/test/adjust the monitor.



Standard	IBM/VGA	IBM/VGA	IBM/8514A	VESA
Compatibility	MODE 1	MODE 2	MODE 3	MODE 4
Resolution	640x400	640x480	1024x768	640x480
H. Polarity	—	—	+	—
H. Frequency	31.469 kHz	31.469 kHz	35.524 kHz	37.861 kHz
H. Front Porch	0.636 $\mu$ s	0.636 $\mu$ s	0.1782 $\mu$ s	0.508 $\mu$ s
H. Sync	3.813 $\mu$ s	3.813 $\mu$ s	3.9196 $\mu$ s	1.270 $\mu$ s
H. Back Porch	1.907 $\mu$ s	1.907 $\mu$ s	1.2475 $\mu$ s	3.810 $\mu$ s
H. Action Video	25.422 $\mu$ s	25.422 $\mu$ s	22.805 $\mu$ s	20.317 $\mu$ s
V. Polarity	+	—	+	—
V. Frequency	70.086 Hz	59.941 Hz	87.000 Hz	72.809 Hz
V. Front Porch	0.381 ms	0.318 ms	0.014 ms	0.026 ms
V. Sync	0.064 ms	0.064 ms	0.1126 ms	0.079 ms
V. Back Porch	1.112 ms	1.050 ms	0.563 ms	0.528 ms
V. Action Video	12.711 ms	15.253 ms	10.810 ms	12.678 ms

9. Adjust VR601(sub-contrast) let CRT center block keep in range 55 ~ 65 FL. Factory sets 60 FL.
10. Set Video Signal Generator to High level input(0.90 V<sub>p-p</sub>)
11. Check the screen.

(21) ABL ADJUSTMENT(VR404)

1. Set Video Signal Generator to MODE 2 (31 KHz Full White Pattern) and input to monitor.
2. Make sure video input = 0.7 V<sub>p-p</sub>.
3. Adjust VR404(clockwise) let picture center = 30 FL (35 ± 5 FL).
4. Check the picture around lights up to 70%.

(22) FOCUS ADJUSTMENT

1. Set Video Signal Generator to MODE 13 (64K White Pattern) and input to monitor.
2. Set Brightness to MIN make raster = 0 FL.
3. Set Contrast Y = 20 ~ 25 FL.
4. Change Video Signal Generator to MODE 13 (64K "H" Pattern)
5. Adjust FBT FOCUS VR to make the CRT display clear.

(23) CONVERGENCY ADJUSTMENT

1. Set Video Signal Generator to MODE 2 (31 KHz Purple Crosshatch Pattern) and input to monitor.
2. Check red and blue color of picture center is overlap or not. If it is not overlap, adjust 4 magnetic pole of CRT YOKE.
3. Set Video Signal Generator to MODE 2 (31 KHz White Crosshatch Pattern) and input to monitor.
4. Check red, green and blue color of picture center is overlap or not. If it is not overlap, adjust 6 magnetic pole of CRT YOKE.
5. Fasten and glue magnetic pole tight, if you adjust it.

(24) POWER SAVING CHECK

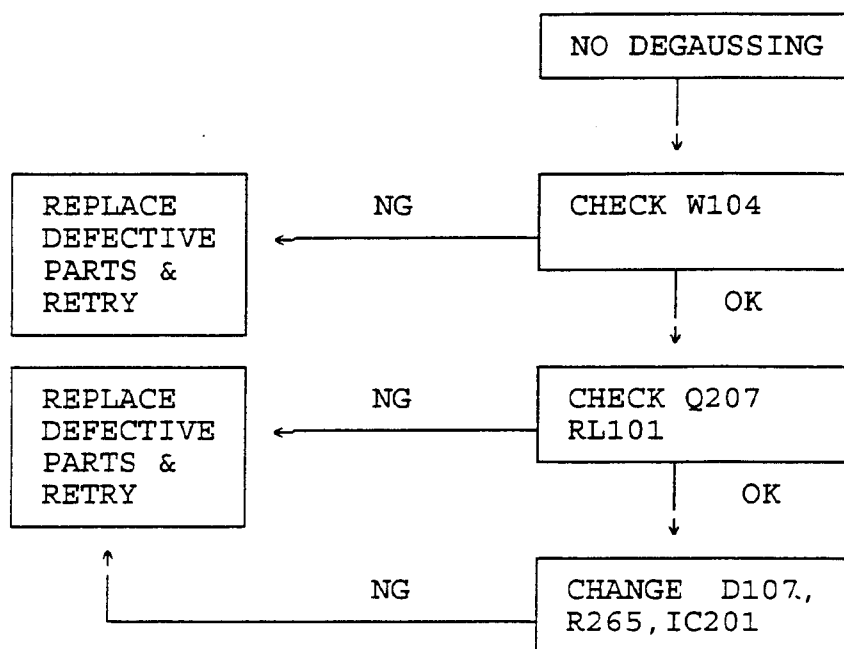
1. Equipment: Video Signal Generator
  - i. Quantum Data Model 901
  - ii. Chroma Model 2135
2. Set Stand-by, Suspend and Off states into equipment as following.
  - i. Stand-by state ⇒ H-sync ≤ 10K Hz
  - ii. Suspend state ⇒ V-sync ≤ 10 Hz
  - iii. Off state ⇒ H-sync ≤ 10K Hz and V-sync ≤ 10 Hz
3. AC power input: 100 to 240 Vac 60/50 Hz.
4. Set Video Signal Generator(Chroma 2135) to Stand-by and input to monitor. Check power consumption below 15W in 5 seconds.
5. Set Chroma 2135 to MODE 2 and check the display is normal in 3 seconds.
6. Set Chroma 2135 to Suspend and check power consumption below 15W in 5 seconds.
7. Set Chroma 2135 to MODE 2 and check the display is normal in 3 seconds.
8. Set Chroma 2135 to Off and check power consumption below 5W in 5 seconds.
9. Set Chroma 2135 to MODE 2 and check the display is normal.

<b>Standard</b>	<b>1280/60</b>
<b>Compatibility</b>	<b>MODE 13</b>
<b>Resolution</b>	<b>1280x1024</b>
<b>H. Polarity</b>	<b>+</b>
<b>H. Frequency</b>	<b>64.31 kHz</b>
<b>H. Front Porch</b>	<b>0.374 <math>\mu</math>s</b>
<b>H. Sync</b>	<b>0.972 <math>\mu</math>s</b>
<b>H. Back Porch</b>	<b>2.243 <math>\mu</math>s</b>
<b>H. Action Video</b>	<b>11.961 <math>\mu</math>s</b>
<b>V. Polarity</b>	<b>+</b>
<b>V. Frequency</b>	<b>60.000 Hz</b>
<b>V. Front Porch</b>	<b>0.094 ms</b>
<b>V. Sync</b>	<b>0.047 ms</b>
<b>V. Back Porch</b>	<b>0.501 ms</b>
<b>V. Action Video</b>	<b>16.025 ms</b>

Standard	VESA	VESA	VESA	VESA
Compatibility	MODE 5	MODE 6	MODE 7	MODE 8
Resolution	640x480	800x600	800x600	800x600
H. Polarity	—	+/-	+	+
H. Frequency	37.500 kHz	35.156 kHz	37.879 kHz	46.875 kHz
H. Front Porch	0.508 $\mu$ s	0.667 $\mu$ s	1.000 $\mu$ s	0.323 $\mu$ s
H. Sync	2.032 $\mu$ s	2.000 $\mu$ s	3.200 $\mu$ s	1.616 $\mu$ s
H. Back Porch	3.810 $\mu$ s	3.556 $\mu$ s	2.200 $\mu$ s	3.232 $\mu$ s
H. Action Video	20.317 $\mu$ s	22.222 $\mu$ s	20.000 $\mu$ s	16.162 $\mu$ s
V. Polarity	—	+/-	+	+
V. Frequency	75.000 Hz	56.250 Hz	60.3165 Hz	75.000 Hz
V. Front Porch	0.027 ms	0.028 ms	0.026 ms	0.021 ms
V. Sync	0.080 ms	0.057 ms	0.106 ms	0.064 ms
V. Back Porch	0.427 ms	0.626 ms	0.607 ms	0.448 ms
V. Action Video	12.800 ms	17.067 ms	15.840 ms	13.599 ms

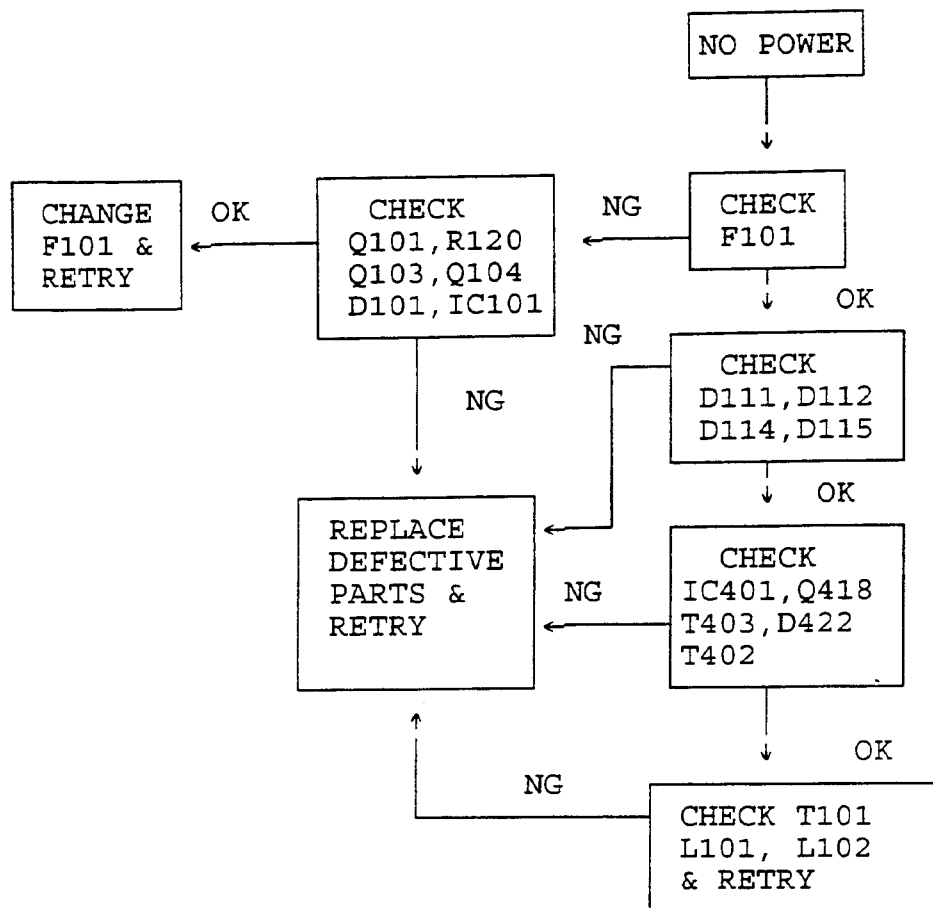
Standard	VESA	VESA	VESA	VESA
Compatibility	MODE 9	MODE 10	MODE 11	MODE 12
Resolution	800x600	1024x768	1024x768	1024x768
H. Polarity	+	—	—	+
H. Frequency	48.090 kHz	48.363 kHz	56.476 kHz	60.023 kHz
H. Front Porch	1.120 $\mu$ s	0.369 $\mu$ s	0.320 $\mu$ s	0.203 $\mu$ s
H. Sync	2.400 $\mu$ s	2.092 $\mu$ s	1.813 $\mu$ s	1.219 $\mu$ s
H. Back Porch	1.280 $\mu$ s	2.462 $\mu$ s	1.920 $\mu$ s	2.235 $\mu$ s
H. Action Video	16.000 $\mu$ s	15.754 $\mu$ s	13.653 $\mu$ s	13.003 $\mu$ s
V. Polarity	+	—	—	+
V. Frequency	72.188 Hz	60.004 Hz	70.069 Hz	75.029 Hz
V. Front Porch	0.770 ms	0.062 ms	0.053 ms	0.017 ms
V. Sync	0.125 ms	0.124 ms	0.106 ms	0.050 ms
V. Back Porch	0.478 ms	0.600 ms	0.513 ms	0.446 ms
V. Action Video	12.480 ms	15.880 ms	13.599 ms	16.025 ms

## 2. NO DEGAUSSING



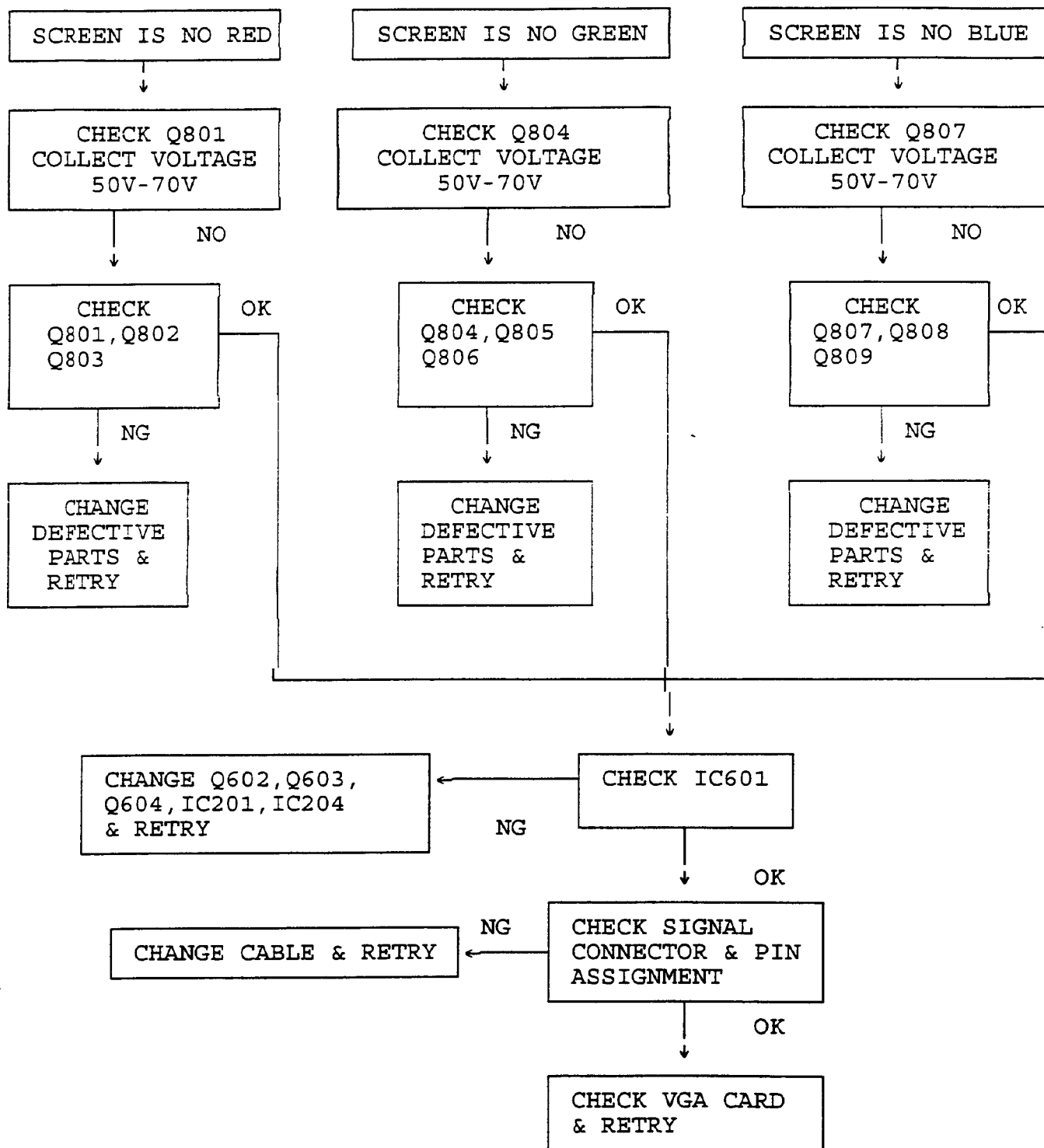
# TROUBLESHOOTING

## 1. NO POWER

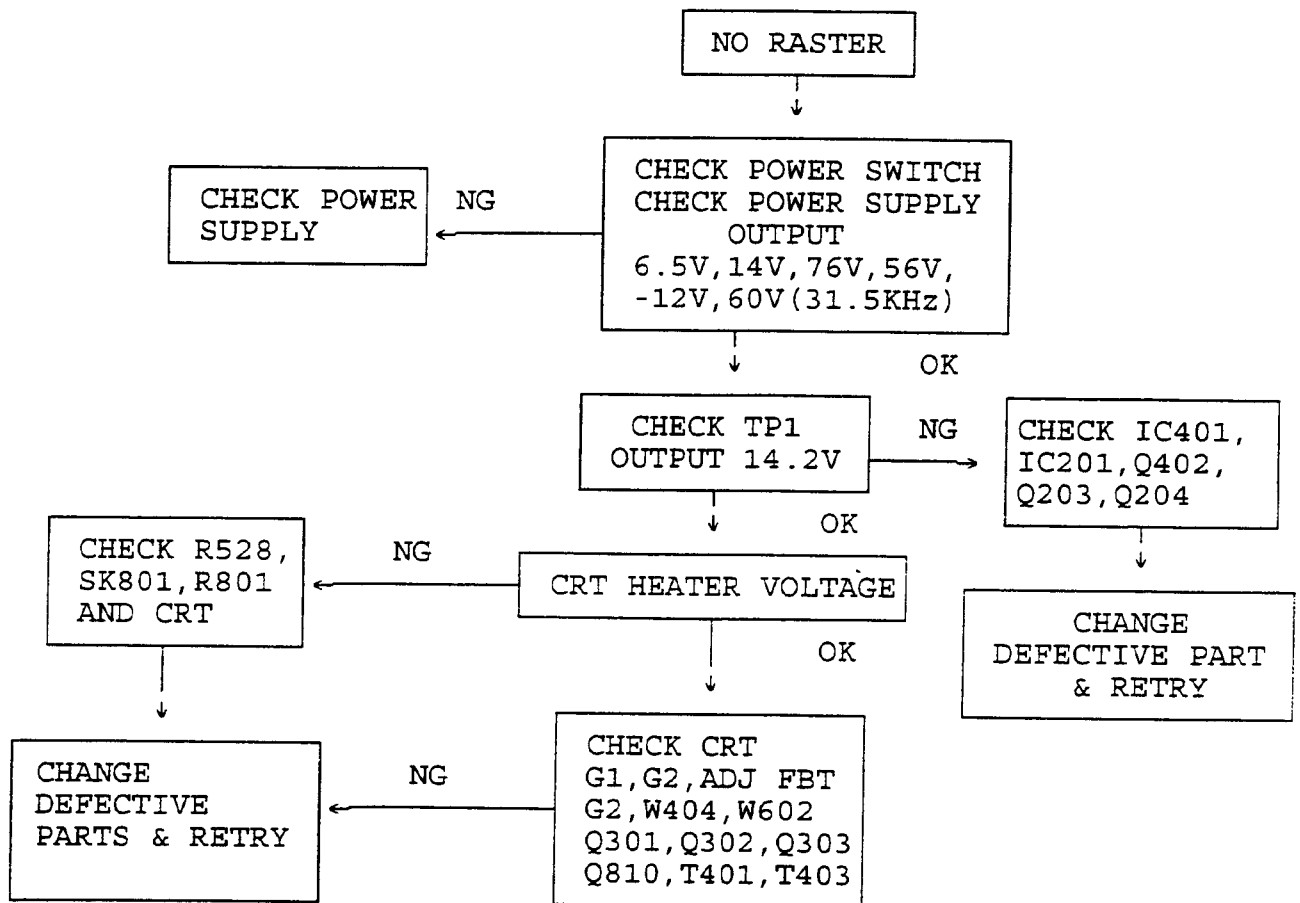




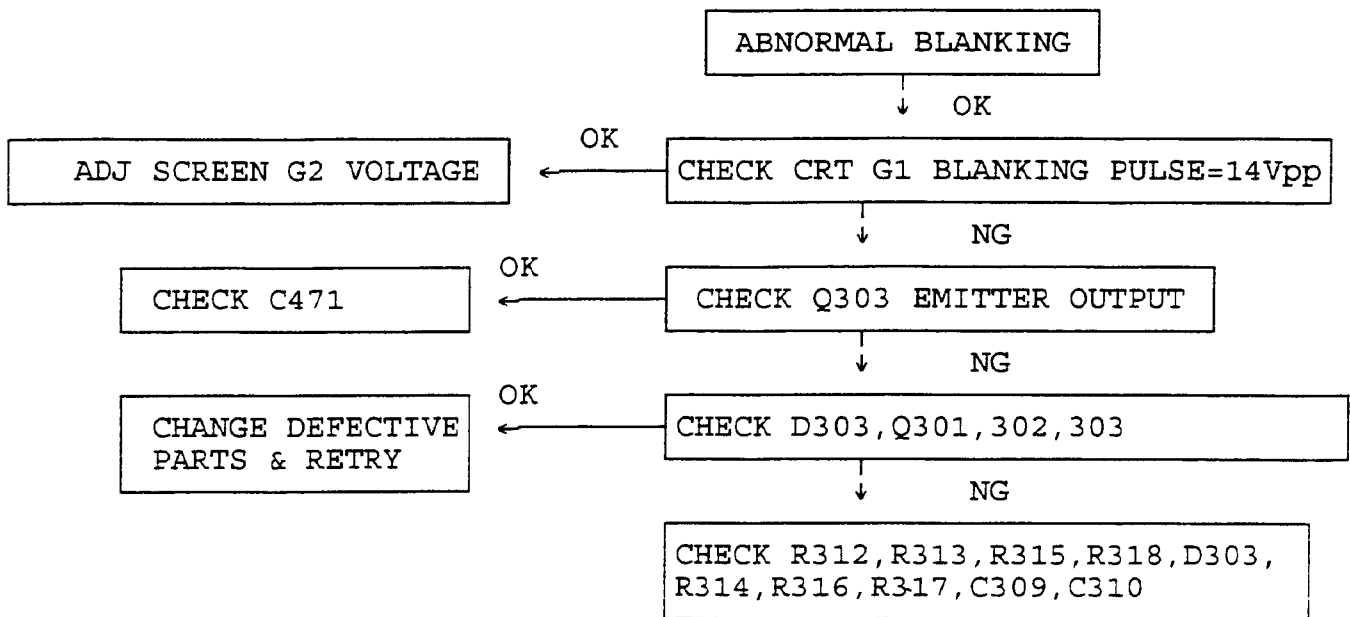
#### 4. PICTURE OR COLOR MISSING



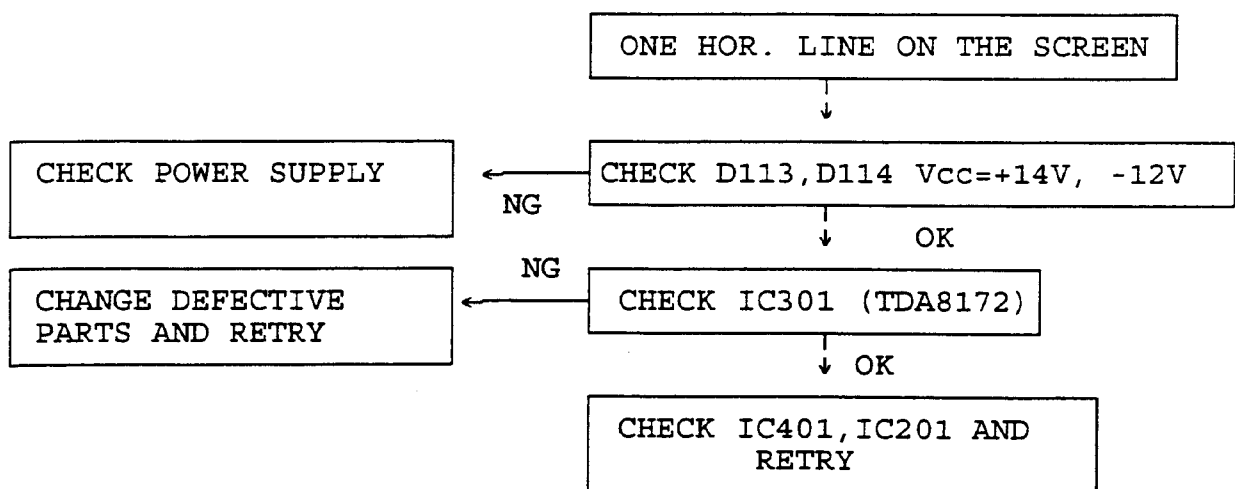
### 3. NO RASTER



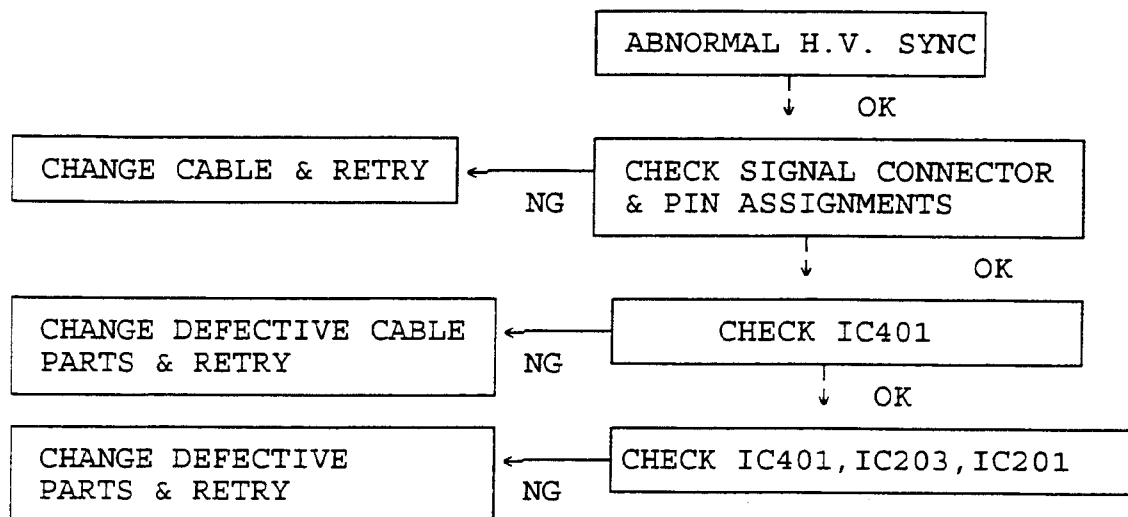
## 7. ABNORMAL BLANKING



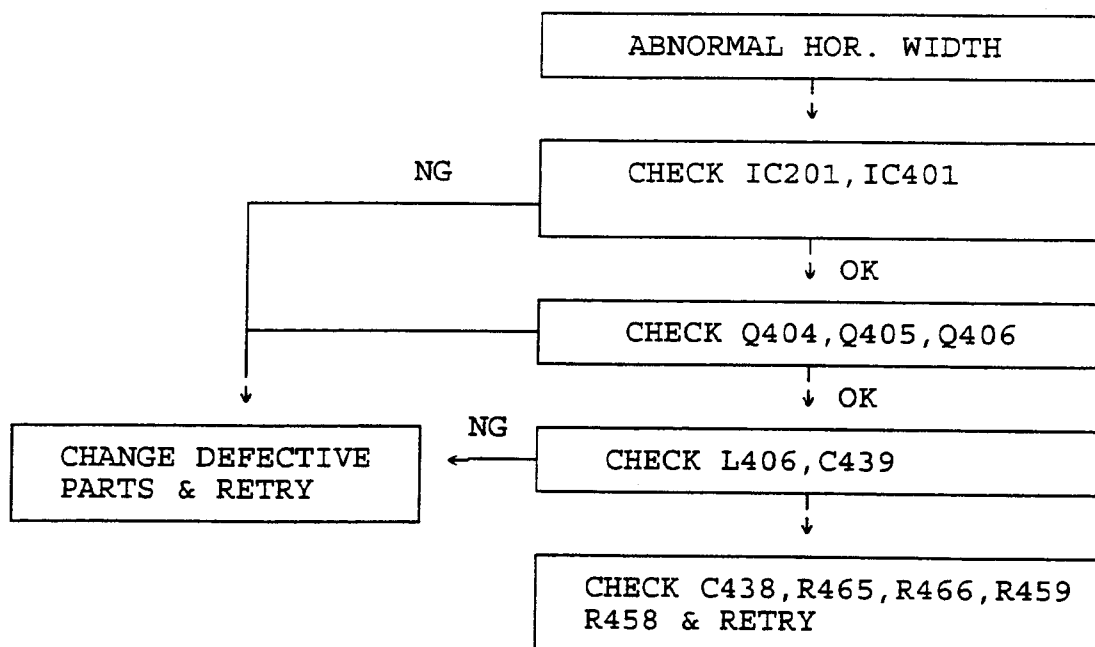
## 8. NO VERTICAL SCAN OR VERTICAL SIZE CAN NOT ADJUST



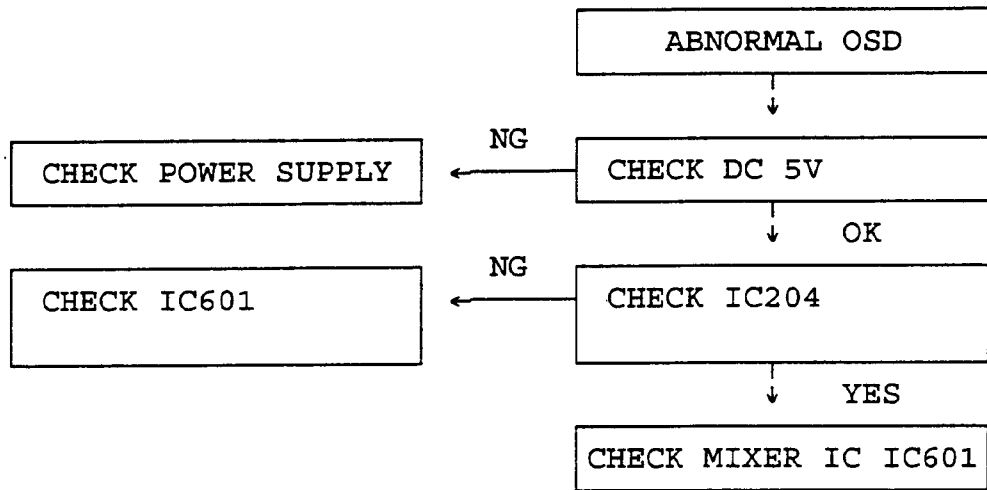
## 5. H.V. SYNC IS ABNORMAL



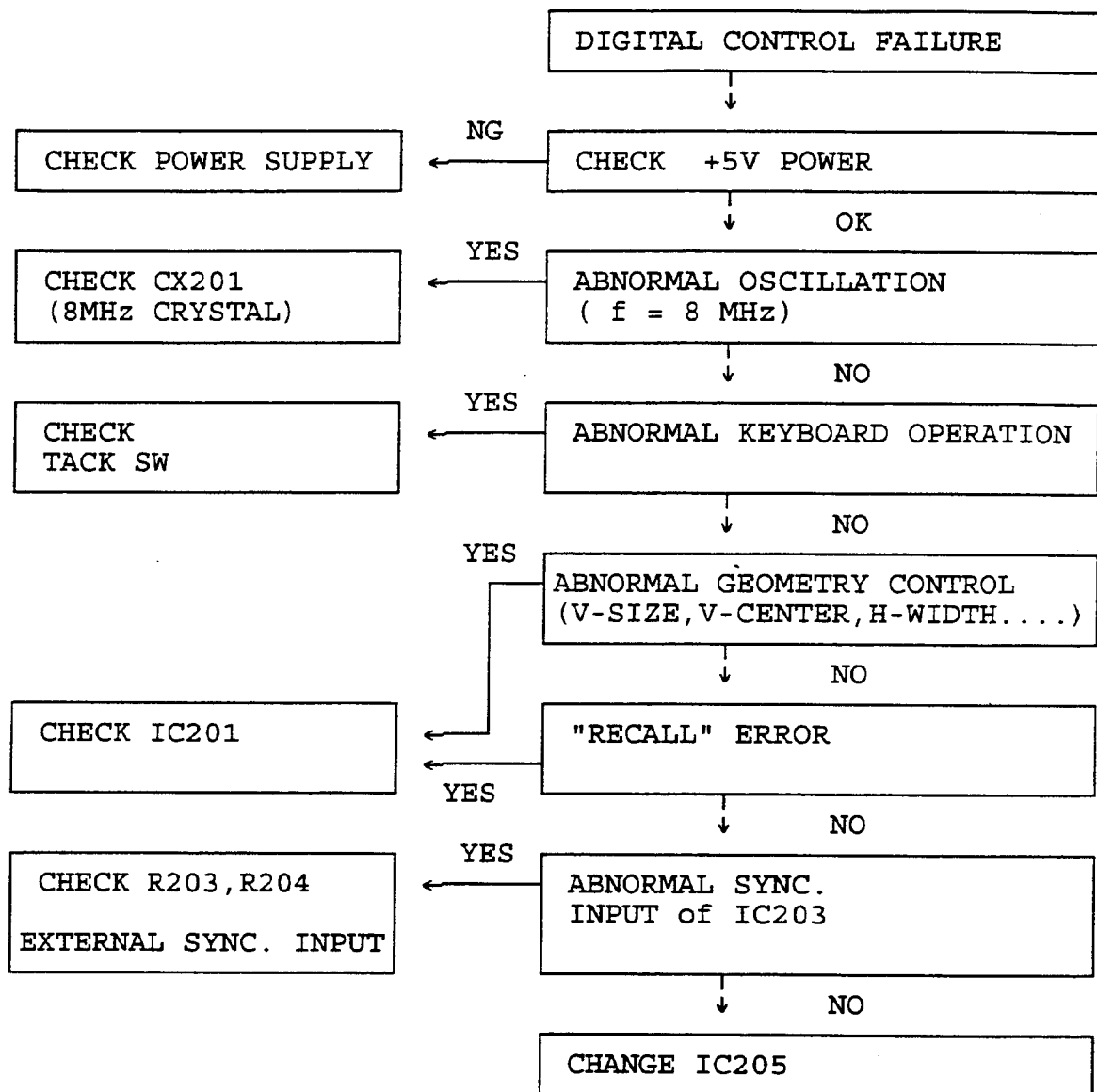
## 6. HOR. WIDTH CAN NOT ADJUST



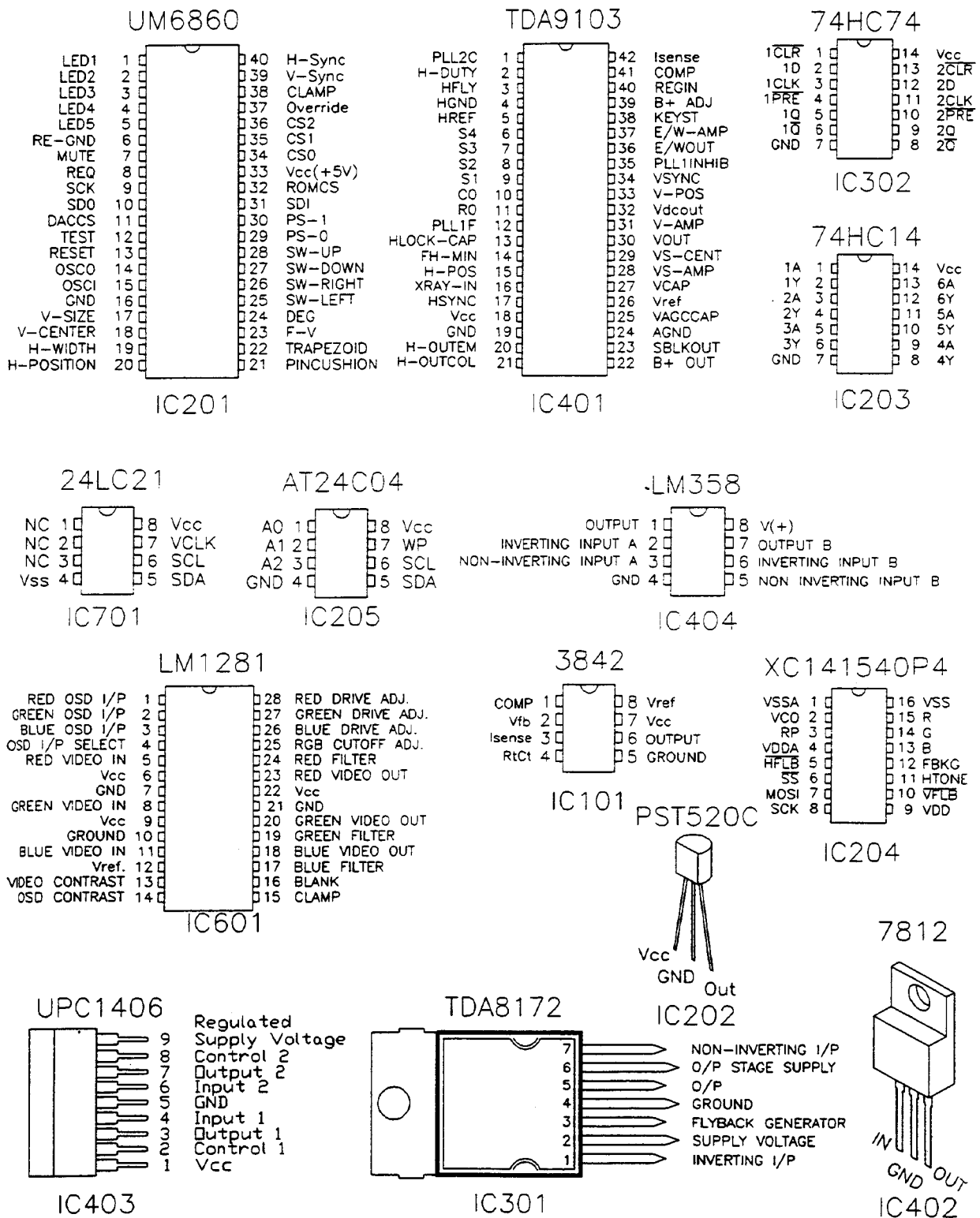
10. ABNORMAL OSD



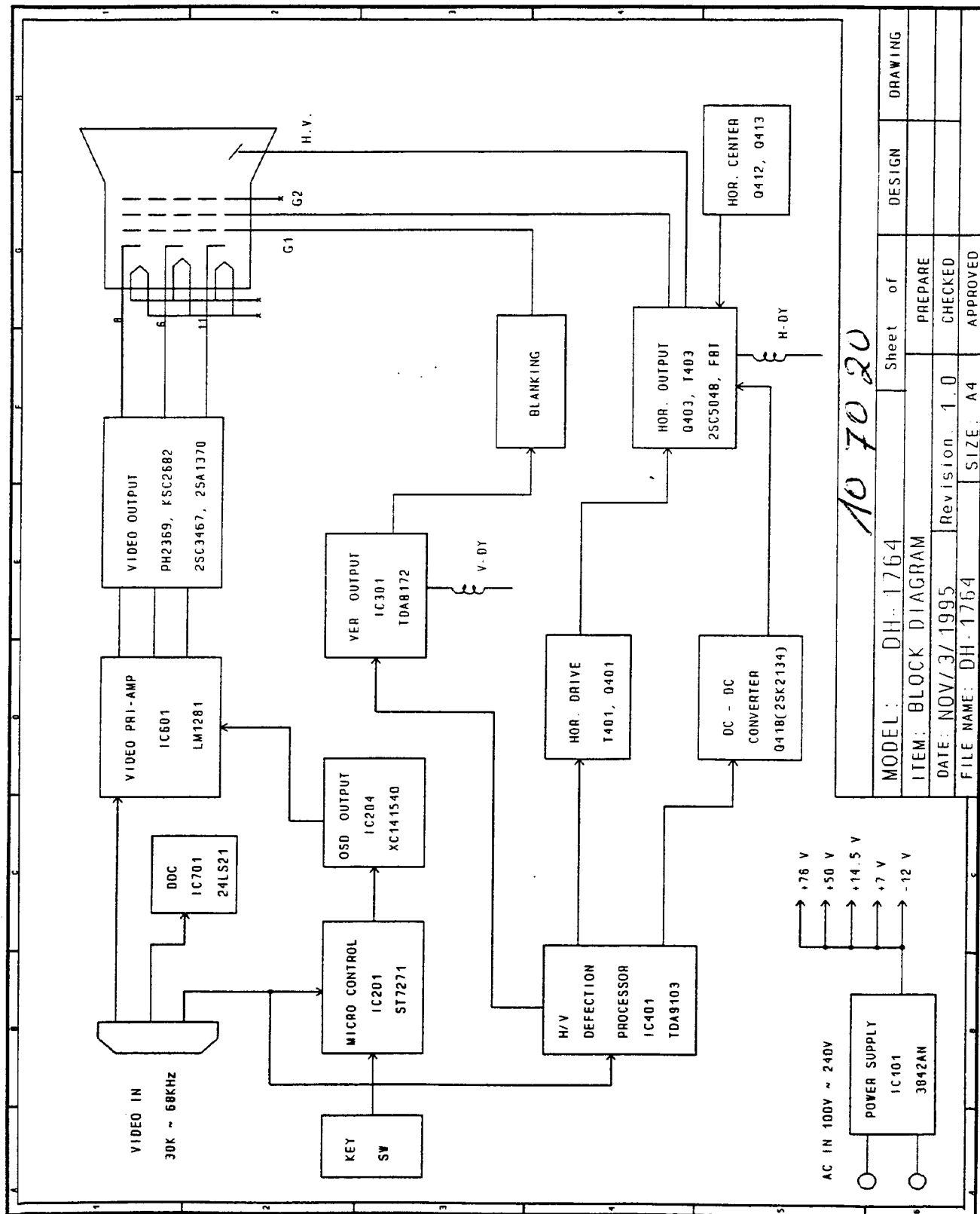
## 9. DIGITAL CONTROL FAILURE



# IC/TRANSISTOR BLOCK DIAGRAMS



# BLOCK DIAGRAM



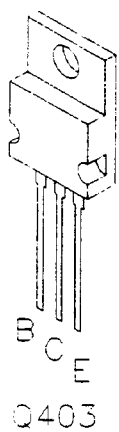


# ELECTRICAL REPLACEMENT PARTS LIST

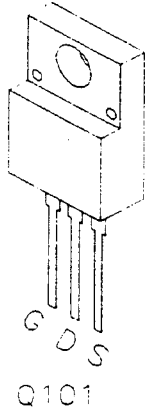
Date:JAN/16/1996 Version: 1.7

Position	Parts No.	Description	Position	Parts No.	Description
C101	CX2242EKH8	X TYPE,0.22UF/AC250V,K;H	C307	CM2241HJ25	MEF,0.22UF/50V,J;2
C104	CY4722GMZ8	Y TYPE,4700PF/AC400V,M;Z	C308	CM4741HJ22	MEF,0.47UF/50V,J;2
C105	CY4722GMZ8	Y TYPE,4700PF/AC400V,M;Z	C309	CM0151HJ24	MEF,0.1UF/50V,J;2
C106	CX2242EKH8	X TYPE,0.22UF/AC250V,K;H	C310	CC4711HK21	CC,470PF/50V,K;2
C108	CE2272GMC3	EC,220UF/400V,M;C	C311	CE1061HM23	EC,10UF/50V,M;2
C109	CC0143AZC6	CC,0.01UF/1KV,Z;C	C312	CE1071CM25	EC,100UF/16V,M;2
C111	CE0161HM23	EC,1UF/50V,M;2	C313	CC0151HZ24	CC,0.1UF/50V,Z;2
C112	CE1071EM23	EC,100UF/25V,M;2	C314	CC0151HZ24	CC,0.1UF/50V,Z;2
C113	CE1071CM25	EC,100UF/16V,M;2	C401	CE2271EM26	EC,220UF/25V,M;2
C114	CC1021HK23	CC,1000PF/50V,K;2	C402	CE1081CMA1	EC,1000UF/16V,M;A
C115	CE1061HM23	EC,10UF/50V,M;2	C403	CM2221HJ21	MEF,2200PF/50V,J;2
C117	CY4722GMZ8	Y TYPE,4700PF/AC400V,M;Z	C404	CE0161HM23	EC,1UF/50V,M;2
C118	CC3311HK26	CC,330PF/50V,K;2	C405	CM2231HJ23	MEF,0.022UF/50V,J;2
C119	CC3311HK26	CC,330PF/50V,K;2	C406	CC0151HZ24	CC,0.1UF/50V,Z;2
C120	CM0141HJ22	MEF,0.01UF/50V,J;2	C407	CC1011HK21	CC,100PF/50V,K;2
C121	CC0151HZ24	CC,0.1UF/50V,Z;2	C408	CM1021HJ28	MEF,1000PF/50V,J;2
C122	CM3321HJ23	MEF,3300PF/50V,J;2	C409	CE1071CM25	EC,100UF/16V,M;2
C123	CC2213AK22	CC,220PF/1KV,K;2	C410	CM1021HJ28	MEF,1000PF/50V,J;2
C124	CE1081JMZ9	EC,1000UF/63V,M;Z	C411	CE4761EM21	EC,47UF/25V,M;2
C126	CE2281EMB8	EC,2200UF/25V,M;B	C412	CC1021HK23	CC,1000PF/50V,K;2
C128	CE1081CMA1	EC,1000UF/16V,M;A	C413	CE4761EM21	EC,47UF/25V,M;2
C129	CE1081CMA1	EC,1000UF/16V,M;A	C414	CM2241HJ25	MEF,0.22UF/50V,J;2
C130	CC2213AK22	CC,220PF/1KV,K;2	C415	CC0151HZ24	CC,0.1UF/50V,Z;2
C131	CE4762AMZ4	EC,47UF/100V,M;Z	C416	CC0151HZ24	CC,0.1UF/50V,Z;2
C132	CC0142HZ25	CC,0.01UF/500V,Z;2	C418	CE1071CM25	EC,100UF/16V,M;2
C134	CC0142HZ25	CC,0.01UF/500V,Z;2	C419	CE1071CM25	EC,100UF/16V,M;2
C201	CC0151HZ24	CC,0.1UF/50V,Z;2	C420	CE1071CM25	EC,100UF/16V,M;2
C202	CE2271CM28	EC,220UF/16V,M;2	C421	CM4741HJ22	MEF,0.47UF/50V,J;2
C203	CC0151HZ24	CC,0.1UF/50V,Z;2	C422	CM2241HJ25	MEF,0.22UF/50V,J;2
C204	CC1011HK21	CC,100PF/50V,K;2	C423	CC0151HZ24	CC,0.1UF/50V,Z;2
C205	CC1011HK21	CC,100PF/50V,K;2	C424	CC0151HZ24	CC,0.1UF/50V,Z;2
C206	CM0141HJ22	MEF,0.01UF/50V,J;2	C425	CC0151HZ24	CC,0.1UF/50V,Z;2
C207	CE0161HM23	EC,1UF/50V,M;2	C427	CC0151HZ24	CC,0.1UF/50V,Z;2
C209	CM4731HJ20	MEF,0.047UF/50V,J;2	C429	CC0151HZ24	CC,0.1UF/50V,Z;2
C210	CE1071CM25	EC,100UF/16V,M;2	C430	CC0151HZ24	CC,0.1UF/50V,Z;2
C211	CC0151HZ24	CC,0.1UF/50V,Z;2	C432	CE1071CM25	EC,100UF/16V,M;2
C212	CC0151HZ24	CC,0.1UF/50V,Z;2	C433	CM4741HJ22	MEF,0.47UF/50V,J;2
C213	CC0151HZ24	CC,0.1UF/50V,Z;2	C435	CC1021HK23	CC,1000PF/50V,K;2
C214	CE0161HM23	EC,1UF/50V,M;2	C437	CC0151HZ24	CC,0.1UF/50V,Z;2
C215	CB1061EM28	BP,10UF/25V,M;2	C438	CM3352AJ80	MEF,3.3UF/100V,J;8
C216	CE1071CM25	EC,100UF/16V,M;2	C439	CC1011HK21	CC,100PF/50V,K;2
C218	CC2201HK22	CC,22PF/50V,K;2	C440	CE4761EM21	EC,47UF/25V,M;2
C219	CC2201HK22	CC,22PF/50V,K;2	C441	CC0151HZ24	CC,0.1UF/50V,Z;2
C220	CE1061HM23	EC,10UF/50V,M;2	C443	CB1071CM22	BP,100UF/16V,M;2
C221	CE1061HM23	EC,10UF/50V,M;2	C443	CB1071CMA6	BP,100UF/16V,M;A
C222	CE1061HM23	EC,10UF/50V,M;2	C444	CC0151HZ24	CC,0.1UF/50V,Z;2
C223	CE1061HM23	EC,10UF/50V,M;2	C446	CC0151HZ24	CC,0.1UF/50V,Z;2
C224	CE1061HM23	EC,10UF/50V,M;2	C447	CF0162EJH6	PMH(MPS),1UF/250V,J;H
C225	CE1061HM23	EC,10UF/50V,M;2	C449	CF2242GJG7	PMH(MPS),0.22UF/400V,J;G
C226	CE1061HM23	EC,10UF/50V,M;2	C450	CC1023AZ26	CC,1000PF/1KV,Z;2
C227	CE1061HM23	EC,10UF/50V,M;2	C451	CM2242EJ26	MEF,0.22UF/250V,J;2
C227	CE1061HM23	EC,10UF/50V,M;2	C452	CC2213AK22	CC,220PF/1KV,K;2
C228	CE1061HM23	EC,10UF/50V,M;2	C453	CC0151HZ24	CC,0.1UF/50V,Z;2
C229	CE1061HM23	EC,10UF/50V,M;2	C454	CC0151HZ24	CC,0.1UF/50V,Z;2
C230	CE1061HM23	EC,10UF/50V,M;2	C455	CE2252WMZ1	EC,2.2UF/450V,M;Z
C231	CC0151HZ24	CC,0.1UF/50V,Z;2	C456	CC0151HZ24	CC,0.1UF/50V,Z;2
C232	CE4771AM27	EC,470UF/10V,M;2	C457	CE4762EMZ8	EC,47UF/250V,M;Z
C301	CE1081EMA9	EC,1000UF/25V,M;A	C458	CQ8223MJG7	PPS,8200PF/1.6KV,J;G
C302	CC0151HZ24	CC,0.1UF/50V,Z;2	C459	CR4732JJG6	PPN,0.047UF/630V,J;G
C303	CE0161HM23	EC,1UF/50V,M;2	C460	CRO142KJE0	PPN,0.01UF/800V,J;E
C304	CE1071EM23	EC,100UF/25V,M;2	C461	CE1071CM25	EC,100UF/16V,M;2
C306	CE1081CMA1	EC,1000UF/16V,M;A	C462	CE1071CM25	EC,100UF/16V,M;2

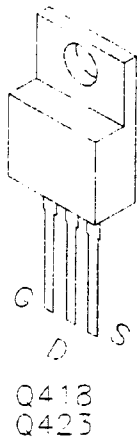
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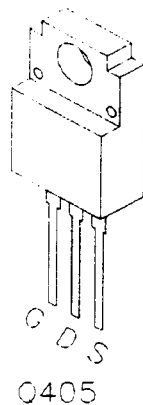
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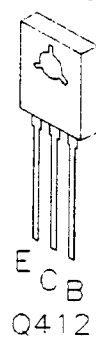
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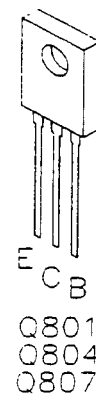
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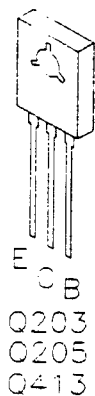
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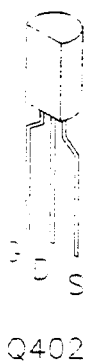
C2682



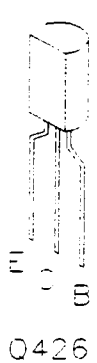
A715



K941



C1921



C1213



2N3904



BF423



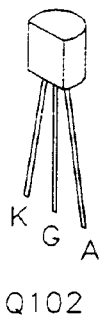
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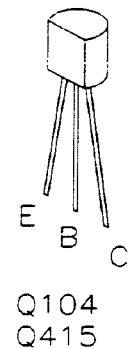
C2705



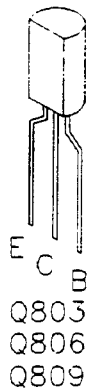
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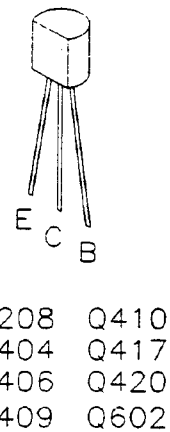
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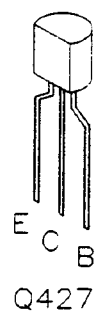
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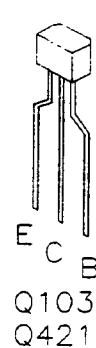
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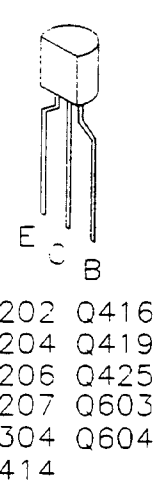
MPSA13



C3402



C945



Position	Parts No.	Description	Position	Parts No.	Description
D205(substitute)	DN41483118	DIODE 1N4148	D416	NEUF540601	FUF5406-600V ASS'Y
D206(substitute)	DN41480211	DIODE 1N4148 (NS)	D417	DM33G*26Z1	DIODE BYD33G 400V (PHILIPS)
D206(substitute)	DN41482819	DIODE 1N4148 (TFK)	D418	DM33G*26Z1	DIODE BYD33G 400V (PHILIPS)
D206(substitute)	DN41483118	DIODE 1N4148	D419	DM33G*26Z1	DIODE BYD33G 400V (PHILIPS)
D206(substitute)	DN41487114	DIODE 1N4148 (ROHM) 52mm	D420	DN41487114	DIODE 1N4148 (ROHM) 52mm
D207	DN41487114	DIODE 1N4148 (ROHM) 52mm	D420(substitute)	DN41480211	DIODE 1N4148 (NS)
D207(substitute)	DN41480211	DIODE 1N4148 (NS)	D420(substitute)	DN41482819	DIODE 1N4148 (TFK)
D207(substitute)	DN41482819	DIODE 1N4148 (TFK)	D420(substitute)	DN41483118	DIODE 1N4148
D207(substitute)	DN41483118	DIODE 1N4148	D421	DZ16042607	DIODE(Z) 16V 1/2W (PHILIPS)
D208	DN41487114	DIODE 1N4148 (ROHM) 52mm	D421(substitute)	DZ16042807	DIODE(Z) 16V 1/2W
D208(substitute)	DN41480211	DIODE 1N4148 (NS)	D421(substitute)	DZ16043106	DIODE(Z) 16V 1/2W
D208(substitute)	DN41482819	DIODE 1N4148 (TFK)	D422	D9540442Z6	DIODE FUF5404-400V (FAGOR)
D208(substitute)	DN41483118	DIODE 1N4148	D423	DIR10540Z9	DIODE HER105 1A/400V
D301	DM33G*26Z1	DIODE BYD33G 400V (PHILIPS)	D423(substitute)	DT52G*28Z9	DIODE BYT52G (TFK)
D302	DN41487114	DIODE 1N4148 (ROHM) 52mm	D424	DM33G*26Z1	DIODE BYD33G 400V (PHILIPS)
D302(substitute)	DN41480211	DIODE 1N4148 (NS)	D425	D7315F70Z7	DIODE AD-315F
D302(substitute)	DN41482819	DIODE 1N4148 (TFK)	D426	DN41487114	DIODE 1N4148 (ROHM) 52mm
D302(substitute)	DN41483118	DIODE 1N4148	D426(substitute)	DN41480211	DIODE 1N4148 (NS)
D303	DN41487114	DIODE 1N4148 (ROHM) 52mm	D426(substitute)	DN41482819	DIODE 1N4148 (TFK)
D303(substitute)	DN41480211	DIODE 1N4148 (NS)	D426(substitute)	DN41483118	DIODE 1N4148
D303(substitute)	DN41482819	DIODE 1N4148 (TFK)	D427	DN41487114	DIODE 1N4148 (ROHM) 52mm
D303(substitute)	DN41483118	DIODE 1N4148	D427(substitute)	DN41480211	DIODE 1N4148 (NS)
D304	DN41487114	DIODE 1N4148 (ROHM) 52mm	D427(substitute)	DN41482819	DIODE 1N4148 (TFK)
D304(substitute)	DN41480211	DIODE 1N4148 (NS)	D427(substitute)	DN41483118	DIODE 1N4148
D304(substitute)	DN41482819	DIODE 1N4148 (TFK)	D601	DN41487114	DIODE 1N4148 (ROHM) 52mm
D304(substitute)	DN41483118	DIODE 1N4148	D601(substitute)	DN41480211	DIODE 1N4148 (NS)
D402	DR1NS44914	DIODE D1NS4-4060 (SHIN-DENGGEN)	D601(substitute)	DN41482819	DIODE 1N4148 (TFK)
			D601(substitute)	DN41483118	DIODE 1N4148
D403	DKDQ0645Z1	DIODE 31DQ06 (IR)	D602	DN41487114	DIODE 1N4148 (ROHM) 52mm
D403(substitute)	DSRK4669Z3	DIODE RK 46 (SANKEN)	D602(substitute)	DN41480211	DIODE 1N4148 (NS)
D404	DN41487114	DIODE 1N4148 (ROHM) 52mm	D602(substitute)	DN41482819	DIODE 1N4148 (TFK)
D404(substitute)	DN41480211	DIODE 1N4148 (NS)	D602(substitute)	DN41483118	DIODE 1N4148
D404(substitute)	DN41482819	DIODE 1N4148 (TFK)	D603	DN41487114	DIODE 1N4148 (ROHM) 52mm
D404(substitute)	DN41483118	DIODE 1N4148	D603(substitute)	DN41480211	DIODE 1N4148 (NS)
D405	DN41487114	DIODE 1N4148 (ROHM) 52mm	D603(substitute)	DN41482819	DIODE 1N4148 (TFK)
D405(substitute)	DN41480211	DIODE 1N4148 (NS)	D603(substitute)	DN41483118	DIODE 1N4148
D405(substitute)	DN41482819	DIODE 1N4148 (TFK)	D701	DZ51C42602	DIODE(Z) 5.1V 1/2W (PHILIPS)
D405(substitute)	DN41483118	DIODE 1N4148	D701(substitute)	DZ51C42802	DIODE(Z) 5.1V 1/2W
D406	DN41487114	DIODE 1N4148 (ROHM) 52mm	D701(substitute)	DZ51C43101	DIODE(Z) 5.1V 1/2W
D406(substitute)	DN41480211	DIODE 1N4148 (NS)	D703	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
D406(substitute)	DN41482819	DIODE 1N4148 (TFK)	D801	DN41487114	DIODE 1N4148 (ROHM) 52mm
D406(substitute)	DN41483118	DIODE 1N4148	D801(substitute)	DN41480211	DIODE 1N4148 (NS)
D407	DN41487114	DIODE 1N4148 (ROHM) 52mm	D801(substitute)	DN41482819	DIODE 1N4148 (TFK)
D407(substitute)	DN41480211	DIODE 1N4148 (NS)	D801(substitute)	DN41483118	DIODE 1N4148
D407(substitute)	DN41482819	DIODE 1N4148 (TFK)	D802	D3083*3114	DIODE 1SS83(1A/300V) (HI-TACHI)
D407(substitute)	DN41483118	DIODE 1N4148			
D408	DN41487114	DIODE 1N4148 (ROHM) 52mm	D803	DN41487114	DIODE 1N4148 (ROHM) 52mm
D408(substitute)	DN41480211	DIODE 1N4148 (NS)	D803(substitute)	DN41480211	DIODE 1N4148 (NS)
D408(substitute)	DN41482819	DIODE 1N4148 (TFK)	D803(substitute)	DN41482819	DIODE 1N4148 (TFK)
D408(substitute)	DN41483118	DIODE 1N4148	D803(substitute)	DN41483118	DIODE 1N4148
D409	DN41487114	DIODE 1N4148 (ROHM) 52mm	D804	D3083*3114	DIODE 1SS83(1A/300V) (HI-TACHI)
D409(substitute)	DN41480211	DIODE 1N4148 (NS)			
D409(substitute)	DN41482819	DIODE 1N4148 (TFK)	D805	DN41487114	DIODE 1N4148 (ROHM) 52mm
D409(substitute)	DN41483118	DIODE 1N4148	D805(substitute)	DN41480211	DIODE 1N4148 (NS)
D410	DN41487114	DIODE 1N4148 (ROHM) 52mm	D805(substitute)	DN41482819	DIODE 1N4148 (TFK)
D410(substitute)	DN41480211	DIODE 1N4148 (NS)	D805(substitute)	DN41483118	DIODE 1N4148
D410(substitute)	DN41482819	DIODE 1N4148 (TFK)	D806	D3083*3114	DIODE 1SS83(1A/300V) (HI-TACHI)
D410(substitute)	DN41483118	DIODE 1N4148			
D411	DM33G*26Z1	DIODE BYD33G 400V (PHILIPS)	F101	FB25233216	FUSE 3.15A 250V 20mm (SEMKO)
D412	DN41487114	DIODE 1N4148 (ROHM) 52mm			
D412(substitute)	DN41480211	DIODE 1N4148 (NS)	F101 use	1T010N01N3	FUSE CLIP 7*7*12mmH
D412(substitute)	DN41482819	DIODE 1N4148 (TFK)	FBT use	4T314W01N4	SCREW TAP-2 #3*14mm W/H
D412(substitute)	DN41483118	DIODE 1N4148	FIX PCB & BRACKET	4T308N01N4	SCREW TAP #3*8mm NI W/H
D413	DT52M*28Z1	DIODE BYT52M (TFK)	FOR R.G.S OUT TO W802	KEB6AA1025	6P WIRE 240mm R/BL/GRAY UL1365#26
D414	DT52M*28Z1	DIODE BYT52M (TFK)			
D416	1C046N48N2	HEAT SINK EXTRU 1.2t*27*46mm DH1764	FOR VIDEO CABLE	2Y080N12N5	CABLE TIE 80mm
			FOR VIDEO CABLE	LC1A280C00	RING CORE 28x7.5x15.8
D416	D9540642Z2	DIODE FUF5406-600V (FAGOR)	FOR W801 TO W404	KDB51A1017	5P WIRE 230mm R/W/BLU/Y/BLK UL1007#26

Position	Parts No.	Description	Position	Parts No.	Description
C463	CE1072EMB6	EC,100UF/250V,M;B	CRT	XHF4020103	CRT 17" (ASC 64K) M41KV-Z180X14(UQ)
C465	CE0161HM23	EC,1UF/50V,M;2	CRT & FRONT FRAME	3L021N12N9	RUBBER WASHER $\phi 7 \times \phi 20.5 \times 2.5$ mmT
C466	CE4752EM22	EC,4.7UF/250V,M;2	CRT & FRONT FRAME	4T006N10N6	WASHER ID#6.2 OD#20t1.6mm
C467	CC0151HZ24	CC,0.1UF/50V,Z;2	CRT & FRONT FRAME	4T525N08N7	SCREW TAP #5*25mm NI
C468	CE0161HM23	EC,1UF/50V,M;2	CRT GND	ZG02315010	GT PIN 2.3#15mm 1.2 $\phi$
C469	CE1061HM23	EC,10UF/50V,M;2	CRT PCB	PDU1022012	CRT PCB DH-1764 REV:2.0
C470	CM4741HJ22	MEF,0.47UF/50V,J;2	CRT PCB use	1T160N26NA	SHIELD CRT PCB SPTE t=0.3mm
C471	CE4742EM20	EC,0.47UF/250V,M;2	CRT use	1TOK2N26N0	SHIELD CRT A SPTE t=0.3mm
C480	CC0151HZ24	CC,0.1UF/50V,Z;2			DH-1764
C481	CC0151HZ24	CC,0.1UF/50V,Z;2	CRT use	NEBRAIDW09	BRAID WIRE ASS'Y DH-1764
C482	CF2242GJG7	PMH(MPS),0.22UF/400V,J;G	CRT use BRAID WIRE ASS'Y	4W522N12N8	SPRING #5*22mm
C483	CF2242GJG7	PMH(MPS),0.22UF/400V,J;G	CRT use BRAID WIRE ASS'Y	KW160061J0	WIRE 160mm BLACK UL1015#222.36 $\phi$
C484	CC1023AZ26	CC,1000PF/1KV,Z;2	CRT use BRAID WIRE ASS'Y	KW280061M1	WIRE 280mm BLACK UL1015#22 K
C485	CC1023AZ26	CC,1000PF/1KV,Z;2	CRT use BRAID WIRE ASS'Y	KW350051J7	WIRE 350mm BLACK UL1015#18+2.36 $\phi$
C487	CM0151HJ24	MEF,0.1UF/50V,J;2	CRT use BRAID WIRE ASS'Y	KQ1521W0I7	BRAID WIRE 1520mm 17"
C488	CC3311HK26	CC,330PF/50V,K;2	CX201	SX80000C*6	CRYSTAL 8.000MHZ
C489	CC0151HZ24	CC,0.1UF/50V,Z;2	D101	DB3SBA49Z2	DIODE BRIDGE D3SBA60 (SHINDENGEN)
C490	CE1061HM23	EC,10UF/50V,M;2	D101(substitute)	DB406*69Z7	DIODE RBV-406
C491	CM4741HJ22	MEF,0.47UF/50V,J;2	D102	DN41487114	DIODE 1N4148 (ROHM) 52mm
C495	CC0151HZ24	CC,0.1UF/50V,Z;2	D102(substitute)	DN41480211	DIODE 1N4148 (NS)
C496 IN	CC0151HZ24	CC,0.1UF/50V,Z;2	D102(substitute)	DN41482819	DIODE 1N4148 (TFK)
C601	CE0161HM23	EC,1UF/50V,M;2	D102(substitute)	DN41483118	DIODE 1N4148
C602	CE0161HM23	EC,1UF/50V,M;2	D103	DT52M*28Z1	DIODE BYT52M (TFK)
C603	CE0161HM23	EC,1UF/50V,M;2	D105	DM33G*26Z1	DIODE BYD33G 400V (PHILIPS)
C604	CC0151HZ24	CC,0.1UF/50V,Z;2	D106	DM33G*26Z1	DIODE BYD33G 400V (PHILIPS)
C605	CC0151HZ24	CC,0.1UF/50V,Z;2	D107	DN41487114	DIODE 1N4148 (ROHM) 52mm
C607	CE1061HM23	EC,10UF/50V,M;2	D107(substitute)	DN41480211	DIODE 1N4148 (NS)
C608	CC0151HZ24	CC,0.1UF/50V,Z;2	D107(substitute)	DN41482819	DIODE 1N4148 (TFK)
C609	CC0151HZ24	CC,0.1UF/50V,Z;2	D107(substitute)	DN41483118	DIODE 1N4148
C610	CE1071CM25	EC,100UF/16V,M;2	D108	DZ16042607	DIODE(Z) 16V 1/2W (PHILIPS)
C611	CC0151HZ24	CC,0.1UF/50V,Z;2	D108(substitute)	DZ16042807	DIODE(Z) 16V 1/2W
C613	CC0151HZ24	CC,0.1UF/50V,Z;2	D108(substitute)	DZ16043106	DIODE(Z) 16V 1/2W
C614	CE0161HM23	EC,1UF/50V,M;2	D110	DN41487114	DIODE 1N4148 (ROHM) 52mm
C615	CE0161HM23	EC,1UF/50V,M;2	D110(substitute)	DN41480211	DIODE 1N4148 (NS)
C616	CC0151HZ24	CC,0.1UF/50V,Z;2	D110(substitute)	DN41482819	DIODE 1N4148 (TFK)
C617	CC0151HZ24	CC,0.1UF/50V,Z;2	D110(substitute)	DN41483118	DIODE 1N4148
C618	CE0161HM23	EC,1UF/50V,M;2	D111	1C046N48N2	HEAT SINK EXTRU 1.2t*27*46mm DH1764
C619	CC0151HZ24	CC,0.1UF/50V,Z;2	D111	D954064Z22	DIODE FUF5406-600V(FAGOR)
C620	CC0151HZ24	CC,0.1UF/50V,Z;2	D111	NEUF540600	FUF5406-600V ASS'Y
C621	CC0151HZ24	CC,0.1UF/50V,Z;2	D112	D*0DF245Z3	DIODE 30DF2-200V(IR)
C622	CC0151HZ24	CC,0.1UF/50V,Z;2	D112(substitute)	D954024Z20	DIODE FUF5402-200V
C623	CC0151HZ24	CC,0.1UF/50V,Z;2	D113	DKDQ0645Z1	DIODE 31DQ06 (IR)
C625	CE1071CM25	EC,100UF/16V,M;2	D113(substitute)	DSRK4669Z3	DIODE RK 46 (SANKEN)
C626	CE2271CM28	EC,220UF/16V,M;2	D114	D940044Z21	DIODE FUF4004-400V(FAGOR)
C627	CC0151HZ24	CC,0.1UF/50V,Z;2	D115	DT52M*28Z1	DIODE BYT52M (TFK)
C628	CC1011HK21	CC,100PF/50V,K;2	D201	DZ51C42602	DIODE(Z) 5.1V 1/2W (PHILIPS)
C629	CC1011HK21	CC,100PF/50V,K;2	D201(substitute)	DZ51C42802	DIODE(Z) 5.1V 1/2W
C630	CC1011HK21	CC,100PF/50V,K;2	D201(substitute)	DZ51C43101	DIODE(Z) 5.1V 1/2W
C631	CC1011HK21	CC,100PF/50V,K;2	D202	DN41487114	DIODE 1N4148 (ROHM) 52mm
C701	CE1071CM25	EC,100UF/16V,M;2	D202(substitute)	DN41480211	DIODE 1N4148 (NS)
C801	CE1071CM25	EC,100UF/16V,M;2	D202(substitute)	DN41482819	DIODE 1N4148 (TFK)
C802	CC1022HZ21	CC,1000PF/500V,Z;2	D202(substitute)	DN41483118	DIODE 1N4148
C803	CC0143AZC6	CC,0.01UF/1KV,Z;C	D203	YC0G255010	LED G/Y 5 $\phi$ 2.54mm L-59GYW
C804	CC0142HZ25	CC,0.01UF/500V,Z;2	D203 use	2F018N08N1	LED HOUSING (3PIN) DH-1570 17.5mmH
C805	CE2262AM21	EC,22UF/100V,M;2	D204	DN41487114	DIODE 1N4148 (ROHM) 52mm
C806	CC0142HZ25	CC,0.01UF/500V,Z;2	D204(substitute)	DN41480211	DIODE 1N4148 (NS)
C807	CE1071CM25	EC,100UF/16V,M;2	D204(substitute)	DN41482819	DIODE 1N4148 (TFK)
C808	CC0151HZ24	CC,0.1UF/50V,Z;2	D204(substitute)	DN41483118	DIODE 1N4148
C809	CC8201HK28	CC,82PF/50V,K;2	D205	DN41487114	DIODE 1N4148 (ROHM) 52mm
C810	CB2252AM26	BP,2.2UF/100V,M;2	D205(substitute)	DN41480211	DIODE 1N4148 (NS)
C811	CE2262AM21	EC,22UF/100V,M;2	D205(substitute)	DN41482819	DIODE 1N4148 (TFK)
C812	CC0151HZ24	CC,0.1UF/50V,Z;2			
C813	CC8201HK28	CC,82PF/50V,K;2			
C814	CB2252AM26	BP,2.2UF/100V,M;2			
C815	CE2262AM21	EC,22UF/100V,M;2			
C816	CC0151HZ24	CC,0.1UF/50V,Z;2			
C817	CC8201HK28	CC,82PF/50V,K;2			
C818	CB2252AM26	BP,2.2UF/100V,M;2			
C819	CE2262AM21	EC,22UF/100V,M;2			

Position	Parts No.	Description	Position	Parts No.	Description
J090	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J165	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
J091	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J166	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J092	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm	J167	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm
J093	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J168	JW060023*2	JUMPER WIRE AUTO 0.6*5mm
J094	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm	J169	JW060023*2	JUMPER WIRE AUTO 0.6*5mm
J095	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J171	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm
J096	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J172	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm
J097	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J173	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm
J098	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J174	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J099	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J174	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J100	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J175	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J101	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J176	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J102	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J177	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J103	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J178	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J104	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J179	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J105	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J180	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J106	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J181	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J107	JW060023*2	JUMPER WIRE AUTO 0.6*5mm	J182	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J108	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm	J183	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J109	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J184	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J110	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J185	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J111	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J186	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J112	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J187	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J113	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J188	JW060023*2	JUMPER WIRE AUTO 0.6*5mm
J113	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J189	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J114	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J192	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
J115	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J195	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
J116	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm	J196	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J117	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J197	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J118	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J198	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J119	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J199	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
J120	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J200	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J121	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J202	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J122	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J203	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J123	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J204	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J124	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J801	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J125	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J802	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J126	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J803	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J127	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J804	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J128	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J805	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J129	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J806	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J130	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J807	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J131	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J808	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J132	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J809	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J133	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J811	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J134	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm	J812	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
J135	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J813	JW0600A3*8	JUMPER WIRE AUTO 0.6*25mm
J136	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	K402	KCC3381048	CANCELING COIL 1280mm DH-1764
J137	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	K402 use	2Y295N12N8	CABEL TIE 295mm
J138	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	L102	LFL0430*13	LINE FILTER 25mH DN-1564G
J139	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L103	LAL012C*27	AC FILTER 1.0mH CT-1469 FCC
J140	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L104	LGC1764*39	DEGAUSSING COIL 0.45φ/ 75Ts(L=1285mm)
J141	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L105	LC12035C30	BEAD CORE 3.5*9mm
J142	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L106	LC12035C52	BEAD CORE 3.5*4.5
J143	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L107	LC12035C52	BEAD CORE 3.5*4.5
J144	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	L108	LC12035C30	BEAD CORE 3.5*9mm
J145	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L109 IN	LC18006014	BEAD CORE 6*10 CN-1470
J146	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L111	LC12035C30	BEAD CORE 3.5*9mm
J147	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	L201	LC12035C30	BEAD CORE 3.5*9mm
J148	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L401	LRC145*702	ROTATION COIL 136Ω/0.2φ 500 TS
J149	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L402	LLL049C*19	LINEAR COIL 4.9uH DH-1764
J150	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L403	LLL017C*17	LINEAR COIL DH-1764 3.5u H/-3A
J151	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	L405	LKL0222*47	CHOKE-CENTER DRWW 10x 152.2mH DH-1764
J152	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	L406	LKL0111*10	CHOKE 110uH DH-1764
J153	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm	L407	LC18006014	BEAD CORE 6*10 CN-1470
J156	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm	L408	LKL0100*13	CHOKE COIL 10uH
J157	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm			
J159	JW060083*6	JUMPER WIRE AUTO 0.6*20mm			
J160	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm			
J161	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm			

Position	Parts No.	Description	Position	Parts No.	Description
GND 4	KW230061M6	WIRE 230mm BLACK UL1015# 22,K DH-1764	J017	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
GND 5	KW160061N4	WIRE 160mm BLACK UL1015# 22 K,K	J018	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
GND 7	KW280061M1	WIRE 280mm BLACK UL1015# 22 K	J019	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
GND.WIRE use	4T306B01B2	SCREW TAP 3*6mm W/H NI	J020	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm
GND1	ZG02315010	GT PIN 2.3#15mm 1.2φ	J021	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
GND3	ZG02315010	GT PIN 2.3#15mm 1.2φ	J022	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm
IC101	ILK3842895	IC UC3842AM(LINFINITY)	J023	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
IC101(substitute)	IL03842872	IC IP3842N (SEMELAB)	J024	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
IC101(substitute)	ILK3842740	IC UC3842AN	J025	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC201	IUM68P6396	IC UM68P60 (UMC)	J026	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
IC201 use	BSI1402**7	IC SOCKET 40P (2.54mm)	J027	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
IC201(substitute)	IUM68P639A	IC UM68P-0A0(UM68P60	J028	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
IC202	IFT520C856	IC PST520C (MITSUMI)	J029	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
IC202(substitute)	IFT572C852	IC PST572C (MITSUMI)	J030	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
IC203	IS7C14*26D	IC 74HC14 DIP (PHILIPS)	J031	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
IC204	IBTV0040E9	IC MTV004 DH-1764	J032	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
IC204	NEMTV00400	MTV004 ASS'Y	J033	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
IC204(substitute)	NE41540P00	MC141540P ASS'Y	J034	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
IC205	ISEC04*614	IC AT24C04-10PC (MOSEL)	J035	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
IC205 use	BSI1082**3	IC SOCKET 8P (2.54mm)	J036	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
IC205(substitute)	ISELC04829	IC 24LC04B/P (MICROC	J037	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
IC301	1A050N14L5	HEAT SINK EXTRU 50*21W *50mmH(BLACK)	J038	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
IC301	4T306B01B2	SCREW TAP 3*6mm W/H NI	J039	JW060023*2	JUMPER WIRE AUTO 0.6*5mm
IC301	IFI8172536	IC TDA8172 (SGS)	J040	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
IC301	NEDA817203	TDA8172 ASS'Y	J041	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
IC301(substitute)	IAI9302535	IC TDA9302H (SGS)	J042	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
IC302	IS7C74*01D	IC SN74HC74N DIP (TI)	J043	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
IC302(substitute)	IS7C74*26D	IC 74HC74 DIP	J044	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
IC302(substitute)	IS7C74*32D	IC TC74HC74 DIP	J045	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
IC302(substitute)	IS7C74*882	IC CD74HC74E DIP	J046	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm
IC401	IFI9103530	IC TDA9103 (SGS)	J047	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC401(substitute)	IFI7778531	IC STV7778 ALL MODEL	J048	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC402	1A013N11N4	HEAT SINK TO-220	J049	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
IC402	4T306B01B2	SCREW TAP 3*6mm W/H NI	J050	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
IC402	IR7812*222	IC MC7812CT (MOTOROLA)	J051	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
IC402	NELM781204	LM7812 ASS'Y	J052	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
IC402(substitute)	IL7812*537	IC L7812CV (SGS)	J053	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC402(substitute)	IR7812*022	IC LM7812 (NS)	J054	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC402(substitute)	IR7812*311	IC 7812P (HITACHI)	J055	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC402(substitute)	IR7812*800	IC HSMC7812 (HMC)	J056	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC402(substitute)	IRA7812652	IC KA7812 (SAMSUNG)	J057	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC403	IU1406H300	IC UPC1406HA (NEC)	J058	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
IC404	IFA358*653	IC KA358 (SAMSUNG)	J059	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC404(substitute)	IF2358N222	IC LMT358N (MOTOROLA	J060	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC404(substitute)	IF2358N533	IC LM358N	J061	JW0600A3*8	JUMPER WIRE AUTO 0.6*20mm
IC404(substitute)	IR17358319	IC HA17358 (HITACHI)	J062	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
IC601	IA21281027	IC LM1281 (N/N.S)	J063	JW0600A3*8	JUMPER WIRE AUTO 0.6*20mm
IC701	ISELC21823	IC 24LC21/P (MICROCHIP)	J064	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
IC701 use	BSI1082**3	IC SOCKET 8P (2.54mm)	J065	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
IC701(substitute)	IQEC211538	IC ST24LC211 DH-1764	J066	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
J001	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J067	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
J002	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J068	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
J003	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J069	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
J004	JW060083*6	JUMPER WIRE AUTO 0.6*20mm	J070	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
J005	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J071	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J006	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J072	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
J007	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J073	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
J008	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J074	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
J009	JW060043*0	JUMPER WIRE AUTO 0.6*10mm	J075	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J010	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm	J076	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J011	LC12035C52	BEAD CORE 3.5*4.5	J077	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J012	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J078	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J013	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J079	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
J014	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm	J080	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
J015	JW060063*8	JUMPER WIRE AUTO 0.6*15mm	J081	JW060073*2	JUMPER WIRE AUTO 0.6*17.5mm
J016	JW060033*6	JUMPER WIRE AUTO 0.6*7.5mm	J082	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
			J083	JW060083*6	JUMPER WIRE AUTO 0.6*20mm
			J084	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
			J085	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
			J086	JW060053*4	JUMPER WIRE AUTO 0.6*12.5mm
			J087	JW060043*0	JUMPER WIRE AUTO 0.6*10mm
			J088	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
			J089	JW060043*0	JUMPER WIRE AUTO 0.6*10mm

Position	Parts No.	Description	Position	Parts No.	Description
Q416	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)	Q603	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)
Q416(substitute)	QC18151327	Tr 2SC1815-GR	Q603(substitute)	QC18151327	Tr 2SC1815-GR
Q416(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)	Q603(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)
Q416(substitute)	QC945P1227	Tr LC945P (MOTOROLA)	Q603(substitute)	QC945P1227	Tr LC945P (MOTOROLA)
Q416(substitute)	QC945P1300	Tr 2SC945P (NEC)	Q603(substitute)	QC945P1300	Tr 2SC945P (NEC)
Q416(substitute)	QC945P1994	Tr KTC945-P (KEC)	Q603(substitute)	QC945P1994	Tr KTC945-P (KEC)
Q417	QA733P*307	Tr 2SA733P (NEC)	Q604	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)
Q417(substitute)	QA200Y1998	Tr KTA200-Y (KEC)	Q604(substitute)	QC18151327	Tr 2SC1815-GR
Q417(substitute)	QA673*1312	Tr 2SA673 (HITACHI)	Q604(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)
Q417(substitute)	QA733P1301	Tr 2SA733P (NEC)	Q604(substitute)	QC945P1227	Tr LC945P (MOTOROLA)
Q417(substitute)	QM733*1650	TRANSISTOR PNP (KSA7)	Q604(substitute)	QC945P1300	Tr 2SC945P (NEC)
Q417(substitute)	QM733C1659	Tr KSA733C-YTA (SAMSUNG)	Q604(substitute)	QC945P1994	Tr KTC945-P (KEC)
Q418	1A023F14N6	HEAT SINK EXTRU (WHITE) 23*15.5*25mmH	Q801	1A023F14N6	HEAT SINK EXTRU (WHITE) 23*15.5*25mmH
Q418	4T308N01N4	SCREW TAP #3*8mm NI W/H	Q801	4T308N01N4	SCREW TAP #3*8mm NI W/H
Q418	NESK213400	2SK2134 ASS'Y	Q801	NESC268211	KSC2682 ASS'Y
Q418	SMF10UM298	MOSFET FS10UM-5 (MITSUBISHI)	Q801	QK2682*658	Tr KSC2682-O (SAMSUNG)
Q418(substitute)	NEIRF63002	IRF630 ASS'Y	Q801(substitute)	QK2682*808	Tr HSC2682 Hi-Sincerity
Q418(substitute)	SMI630*653	MOSFET IRF630	Q801(substitute)	QK26821652	Tr KSC2682-Y (SAMSUNG)
Q418(substitute)	SMIS630651	MOSFET IRF630	Q801(substitute)	QK26821802	Tr HSC2682 Hi-Sincerity
Q418(substitute)	SMK1221331	MOSFET 2SK1221(FUJI)	Q802	QP23691267	Tr PH2369 (PHILIPS)
Q418(substitute)	SMK2134307	MOSFET 2SK2134 (NEC)	Q802(substitute)	QP23691801	Tr HPH2369 Hi-Sincerity
Q419	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)	Q802(substitute)	QR23691225	TRANSISTOR NPN MPS23
Q419(substitute)	QC18151327	Tr 2SC1815-GR	Q803	QB647A1311	Tr 2SB647A (HITACHI)
Q419(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)	Q803(substitute)	QM916*1656	TRANSISTOR KSA916-Y
Q419(substitute)	QC945P1227	Tr LC945P (MOTOROLA)	Q804	1A023F14N6	HEAT SINK EXTRU (WHITE) 23*15.5*25mmH
Q419(substitute)	QC945P1300	Tr 2SC945P (NEC)	Q804	4T308N01N4	SCREW TAP #3*8mm NI W/H
Q419(substitute)	QC945P1994	Tr KTC945-P (KEC)	Q804	NESC268211	KSC2682 ASS'Y
Q420	QA733P*307	Tr 2SA733P (NEC)	Q804	QK2682*658	Tr KSC2682-O (SAMSUNG)
Q420(substitute)	QA200Y1998	Tr KTA200-Y (KEC)	Q804(substitute)	QK2682*808	Tr HSC2682 Hi-Sincerity
Q420(substitute)	QA673*1312	Tr 2SA673 (HITACHI)	Q804(substitute)	QK26821652	Tr KSC2682-Y (SAMSUNG)
Q420(substitute)	QA733P1301	Tr 2SA733P (NEC)	Q804(substitute)	QK26821802	Tr HSC2682 Hi-Sincerity
Q420(substitute)	QM733*1650	TRANSISTOR PNP (KSA7)	Q805	QP23691267	Tr PH2369 (PHILIPS)
Q420(substitute)	QM733C1659	Tr KSA733C-YTA (SAMSUNG)	Q805(substitute)	QP23691801	Tr HPH2369 Hi-Sincerity
Q421	Q114ES*711	Tr DTC114ES (ROHM)	Q805(substitute)	QR23691225	TRANSISTOR NPN MPS23
Q421(substitute)	QC3402*231	Tr 2SC3402 (SANYO)	Q806	QB647A1311	Tr 2SB647A (HITACHI)
Q422	QF423*1809	Tr HBF423 Hi-Sincerity	Q806(substitute)	QM916*1656	TRANSISTOR KSA916-Y
Q422(substitute)	QF423**227	Tr BF423 (MOTOROLA)	Q807	1A023F14N6	HEAT SINK EXTRU (WHITE) 23*15.5*25mmH
Q422(substitute)	QF423**261	Tr BF423 (PHILIPS)	Q807	4T308N01N4	SCREW TAP #3*8mm NI W/H
Q422(substitute)	QF423**322	Tr BF423 (TOSHIBA)	Q807	NESC268211	KSC2682 ASS'Y
Q422(substitute)	QF423*1265	Tr BF423 (PHILIPS)	Q807	QK2682*658	Tr KSC2682-O (SAMSUNG)
Q422(substitute)	QF423L1261	Tr BF423L (PHILIPS)	Q807(substitute)	QK2682*808	Tr HSC2682 Hi-Sincerity
Q423	SMIS630651	MOSFET IRF630 (SAMSUNG)	Q807(substitute)	QK26821652	Tr KSC2682-Y (SAMSUNG)
Q423(substitute)	SMF10UM298	MOSFET FS10UM-5	Q807(substitute)	QK26821802	Tr HSC2682 Hi-Sincerity
Q423(substitute)	SMI630*225	MOSFET IRF630	Q808	QP23691267	Tr PH2369 (PHILIPS)
Q423(substitute)	SMI630*653	MOSFET IRF630	Q808(substitute)	QP23691801	Tr HPH2369 Hi-Sincerity
Q423(substitute)	SMK2134307	MOSFET 2SK2134 (NEC)	Q808(substitute)	QR23691225	TRANSISTOR NPN MPS23
Q423(substitute)	SMK2161237	MOSFET 2SK2161	Q809	QB647A1311	Tr 2SB647A (HITACHI)
Q425	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)	Q809(substitute)	QM916*1656	TRANSISTOR KSA916-Y
Q425(substitute)	QC18151327	Tr 2SC1815-GR	Q810	QC27051325	Tr 2SC2705 (TOSHIBA)
Q425(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)	Q810(substitute)	QC19211312	Tr 2SC1921 (HITACHI)
Q425(substitute)	QC945P1227	Tr LC945P (MOTOROLA)	R103	RA:474IJ49	RES,470KΩ,1/2W,J;4
Q425(substitute)	QC945P1300	Tr 2SC945P (NEC)	R104	RG*140SNZ6	PTC 14Ω +/-20%(2 pin)
Q425(substitute)	QC945P1994	Tr KTC945-P (KEC)	R105	RH*50C**16	NTC SCK-055 5Ω
Q426	QC1921*318	Tr 2SC1921 (HITACHI)	R105(substitute)	RH*70C**28	NTC 7Ω
Q426(substitute)	QC19211312	Tr 2SC1921 (HITACHI)	R106	RA:105IJ45	RES,1MΩ,1/2W,J;4
Q427	QRA13**225	Tr MPSA13 (MOTOROLA)	R107	RA*103GJ41	RES,10KΩ,1/4W,J;4
Q602	QA733P*307	Tr 2SA733P (NEC)	R108	RC*1542JS6	RES(M),150KΩ,2W,J;S
Q602(substitute)	QA200Y1998	Tr KTA200-Y (KEC)	R109	RC*2233JU4	RES(M),22KΩ,3W,J;U
Q602(substitute)	QA673*1312	Tr 2SA673 (HITACHI)	R111	RA:102IJ46	RES,1KΩ,1/2W,J;4
Q602(substitute)	QA733P1301	Tr 2SA733P (NEC)	R112	RA*103GJ41	RES,10KΩ,1/4W,J;4
Q602(substitute)	QM733*1650	TRANSISTOR PNP (KSA7)	R113	RA*223GJ46	RES,22KΩ,1/4W,J;4
Q602(substitute)	QM733C1659	Tr KSA733C-YTA (SAMSUNG)	R114	RA*224GJ49	RES,220KΩ,1/4W,J;4
			R115	RA*392GJ48	RES,3.9KΩ,1/4W,J;4
			R116	RA*562GJ44	RES,5.6KΩ,1/4W,J;4

Position	Parts No.	Description	Position	Parts No.	Description
L409 IN	LC12035C30	BEAD CORE 3.5*9mm	Q207(substitute)	QC18151327	Tr 2SC1815-GR
L601	ZEG*470007	EMI FILTER ZJSR5101-470-TA	Q207(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)
L601(substitute)	ZEG*101004	EMI FILTER ZJSR5101	Q207(substitute)	QC945P1227	Tr LC945P (MOTOROLA)
L602	ZEG*470007	EMI FILTER ZJSR5101-470-TA	Q207(substitute)	QC945P1300	Tr 2SC945P (NEC)
L602(substitute)	ZEG*101004	EMI FILTER ZJSR5101	Q207(substitute)	QC945P1994	Tr KTC945-P (KEC)
L603	ZEG*470007	EMI FILTER ZJSR5101-470-TA	Q208	QA733P*307	Tr 2SA733P (NEC)
L603(substitute)	ZEG*101004	EMI FILTER ZJSR5101	Q208(substitute)	QA200Y1998	Tr KTA200-Y (KEC)
L604	ZEG*470007	EMI FILTER ZJSR5101-470-TA	Q208(substitute)	QA673*1312	Tr 2SA673 (HITACHI)
L604(substitute)	ZEG*101004	EMI FILTER ZJSR5101	Q208(substitute)	QA733P1301	Tr 2SA733P (NEC)
L605	ZEG*470007	EMI FILTER ZJSR5101-470-TA	Q208(substitute)	QM733*1650	TRANSISTOR PNP (KSA7
L605(substitute)	ZEG*101004	EMI FILTER ZJSR5101	Q208(substitute)	QM733C1659	Tr KSA733C-YTA (SAMS
L801	LC12035C52	BEAD CORE 3.5*4.5	Q301	QN39041021	Tr 2N3904 (NS)
L802	LKL2020*19	CHOKE UP 20Ts/DOWN 20Ts	Q301(substitute)	QN3904*227	Tr 2N3904 (MOTOROLA)
L803	LKL2020*19	CHOKE UP 20Ts/DOWN 20Ts	Q301(substitute)	QN39041659	Tr 2N3904 (SAMSUNG)
L804	LKL2020*19	CHOKE UP 20Ts/DOWN 20Ts	Q302	QN39041021	Tr 2N3904 (NS)
MAIN PCB use	2F009N33N9	PCB SPACER SUPPORTS	Q302(substitute)	QN3904*227	Tr 2N3904 (MOTOROLA)
MAIN PCB	PDU1012253	MAIN PCB REV:2.2 DH-1764	Q302(substitute)	QN39041659	Tr 2N3904 (SAMSUNG)
Q101	1A050N14M1	HEAT SINK EXTRU 50*21W *60mmH(BLACK)	Q303	QN39041021	Tr 2N3904 (NS)
Q101	4T308N01N4	SCREW TAP #3*8mm NI W/H	Q303(substitute)	QN3904*227	Tr 2N3904 (MOTOROLA)
Q101	NEFS7TM001	FS7TM-12 ASS'Y	Q303(substitute)	QN39041659	Tr 2N3904 (SAMSUNG)
Q101	SMF7TM*298	MOSFET FS7TM-12 (MITSUBISHI)	Q304	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)
Q101(substitute)	SMF7KM*290	MOSFET FS7KM-12	Q304(substitute)	QC18151327	Tr 2SC1815-GR
Q102	SSA1006**4	SCR MCR100-6 400V NO TAPING	Q304(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)
Q103	Q114ES*711	Tr DTC114ES (ROHM)	Q304(substitute)	QC945P1227	Tr LC945P (MOTOROLA)
Q103(substitute)	QC3402*231	Tr 2SC3402 (SANYO)	Q304(substitute)	QC945P1300	Tr 2SC945P (NEC)
Q104	QW145*1809	Tr HTL145	Q304(substitute)	QC945P1994	Tr KTC945-P (KEC)
Q201	QC1213C317	Tr 2SC1213A(HITACHI)	Q401	CM0141HJ22	MEF.0.01UF/50V,J:2
Q201(substitute)	QC1959*324	Tr 2SC1959 (TOSHIBA)	Q402	SMK941*320	MOSFET 2SK941 (TOSHIBA)
Q202	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)	Q403	1A0K2N15NB	HEAT SINK AL t=2.0mm DH-17/DL17MU
Q202(substitute)	QC18151327	Tr 2SC1815-GR	Q403	4T308N01N4	SCREW TAP #3*8mm NI W/H
Q202(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)	Q403	DY359X26Z1	DIODE 8Y359X-1500V (PHILIPS)
Q202(substitute)	QC945P1227	Tr LC945P (MOTOROLA)	Q403	NESC504801	2SC5048 ASS'Y
Q202(substitute)	QC945P1300	Tr 2SC945P (NEC)	Q403	QC5048*324	Tr 2SC5048 (TOSHIBA)
Q202(substitute)	QC945P1994	Tr KTC945-P (KEC)	Q403(substitute)	DY359F26Z7	DIODE BY359F-1500V
Q203	QA715C*316	Tr 2SA715C (HITCH) (PNP NO TAPING)	Q404	QA673*1312	Tr 2SA673 (HITACHI)
Q203(substitute)	QB1009*718	TRANSISTOR 2SB1009R	Q405	1A050N14L5	HEAT SINK EXTRU 50*21W *50mmH(BLACK)
Q203(substitute)	QB772Q*303	Tr 2SB772Q (NEC)	Q405	4T308N01N4	SCREW TAP #3*8mm NI W/H
Q203(substitute)	QSB772*655	TRANSISTOR DSB772-Y	Q405	NED2107W01	2SD2107W-C ASS'Y
Q204	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)	Q405	QD2107W318	Tr 2SD2107W-C (HITACHI)
Q204(substitute)	QC18151327	Tr 2SC1815-GR	Q406	QA673*1312	Tr 2SA673 (HITACHI)
Q204(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)	Q408	QC1213C317	Tr 2SC1213A(HITACHI)
Q204(substitute)	QC945P1227	Tr LC945P (MOTOROLA)	Q408(substitute)	QC1959*324	Tr 2SC1959 (TOSHIBA)
Q204(substitute)	QC945P1300	Tr 2SC945P (NEC)	Q409	QA673*1312	Tr 2SA673 (HITACHI)
Q204(substitute)	QC945P1994	Tr KTC945-P (KEC)	Q410	QA733P*307	Tr 2SA733P (NEC)
Q205	QA715C*316	Tr 2SA715C (HITCH) (PNP NO TAPING)	Q410(substitute)	QA200Y1998	Tr KTA200-Y (KEC)
Q205(substitute)	QB1009*718	TRANSISTOR 2SB1009R	Q410(substitute)	QA673*1312	Tr 2SA673 (HITACHI)
Q205(substitute)	QB772Q*303	Tr 2SB772Q (NEC)	Q410(substitute)	QA733P1301	Tr 2SA733P (NEC)
Q205(substitute)	QSB772*655	TRANSISTOR DSB772-Y	Q410(substitute)	QM733*1650	TRANSISTOR PNP (KSA7
Q206	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)	Q410(substitute)	QM733C1659	Tr KSA733C-YTA (SAMS
Q206(substitute)	QC18151327	Tr 2SC1815-GR	Q411	QC1213C317	Tr 2SC1213A(HITACHI)
Q206(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)	Q411(substitute)	QC1959*324	Tr 2SC1959 (TOSHIBA)
Q206(substitute)	QC945P1227	Tr LC945P (MOTOROLA)	Q412	QC1162*311	Tr 2SC1162C(HITACHI)
Q206(substitute)	QC945P1300	Tr 2SC945P (NEC)	Q413	QA715C*316	Tr 2SA715C (HITCH) (PNP NO TAPING)
Q206(substitute)	QC945P1994	Tr KTC945-P (KEC)	Q413(substitute)	QB1009*718	TRANSISTOR 2SB1009R
Q207	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)	Q413(substitute)	QB772Q*303	Tr 2SB772Q (NEC)
			Q413(substitute)	QSB772*655	TRANSISTOR DSB772-Y
			Q414	QC945C1656	Tr KSC945C-YTA (SAMSUNG) (TAPING)
			Q414(substitute)	QC18151327	Tr 2SC1815-GR
			Q414(substitute)	QC1815Y656	Tr KSC1815-YTA (SAMSUNG)
			Q414(substitute)	QC945P1227	Tr LC945P (MOTOROLA)
			Q414(substitute)	QC945P1300	Tr 2SC945P (NEC)
			Q414(substitute)	QC945P1994	Tr KTC945-P (KEC)
			Q415	QW145*1809	Tr HTL145 Hi-Sincerity



Position	Parts No.	Description	Position	Parts No.	Description
R429	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R511	RA*10CGJ41	RES,1Ω,1/4W,J;4
R430	RA*102EJ28	RES,1KΩ,1/6W,J;2	R512	RA*750GJ48	RES,75Ω,1/4W,J;4
R431	RA*103GJ41	RES,10KΩ,1/4W,J;4	R513	RA*105GJ47	RES,1MΩ,1/4W,J;4
R432	RA*102GJ48	RES,1KΩ,1/4W,J;4	R514	RA*224IJ47	RES,220KΩ,1/2W,J;4
R433	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R515	RA*103GJ41	RES,10KΩ,1/4W,J;4
R434	RA*331GJ43	RES,330Ω,1/4W,J;4	R516	RA*682GJ49	RES,6.8KΩ,1/4W,J;4
R435	RA*223GJ46	RES,22KΩ,1/4W,J;4	R517	RA*102GJ48	RES,1KΩ,1/4W,J;4
R436	RA*153EJ21	RES,15KΩ,1/6W,J;2	R518	RA*124GJ48	RES,120KΩ,1/4W,J;4
R437	RA*203GJ42	RES,20KΩ,1/4W,J;4	R519	RA*473GJ48	RES,47KΩ,1/4W,J;4
R438	RA*273EJ26	RES,27KΩ,1/6W,J;2	R520	RA*224GJ49	RES,220KΩ,1/4W,J;4
R439	RA*473EJ28	RES,47KΩ,1/6W,J;2	R522	RA*472EJ25	RES,4.7KΩ,1/6W,J;2
R440	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R523	RA*222GJ43	RES,2.2KΩ,1/4W,J;4
R442	RA*393GJ41	RES,39KΩ,1/4W,J;4	R524	RA*102GJ48	RES,1KΩ,1/4W,J;4
R443	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R525	RA*123GJ45	RES,12KΩ,1/4W,J;4
R445	RA*561GJ41	RES,560Ω,1/4W,J;4	R527	RA*683GJ42	RES,68KΩ,1/4W,J;4
R446	RA*223GJ46	RES,22KΩ,1/4W,J;4	R528	JW060063*8	JUMPER WIRE AUTO 0.6*15mm
R447	RA*333GJ49	RES,33KΩ,1/4W,J;4	R529	RA*103GJ41	RES,10KΩ,1/4W,J;4
R448	RA*393GJ41	RES,39KΩ,1/4W,J;4	R532	RA*334GJ42	RES,330KΩ,1/4W,J;4
R449	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R533	RA*473GJ48	RES,47KΩ,1/4W,J;4
R451	RA*104EJ24	RES,100KΩ,1/6W,J;2	R537	RA*561EJ21	RES,560Ω,1/6W,J;2
R452	RA*474GJ41	RES,470KΩ,1/4W,J;4	R538	RA*104GJ44	RES,100KΩ,1/4W,J;4
R453	RA*472GJ45	RES,4.7KΩ,1/4W,J;4	R539	RA*682GJ49	RES,6.8KΩ,1/4W,J;4
R455	RA*102GJ48	RES,1KΩ,1/4W,J;4	R540	RA*102GJ48	RES,1KΩ,1/4W,J;4
R456	RA*105GJ47	RES,1MΩ,1/4W,J;4	R541	RA*472GJ45	RES,4.7KΩ,1/4W,J;4
R457	RA*392EJ28	RES,3.9KΩ,1/6W,J;2	R542	RA*221IJ48	RES,220Ω,1/2W,J;4
R458	RA*222EJ23	RES,2.2KΩ,1/6W,J;2	R543	RA*224GJ49	RES,220KΩ,1/4W,J;4
R459	RA*104GJ44	RES,100KΩ,1/4W,J;4	R544	RA*104GJ44	RES,100KΩ,1/4W,J;4
R460	RA*102GJ48	RES,1KΩ,1/4W,J;4	R601	RA*750GJ48	RES,75Ω,1/4W,J;4
R461	RA*224GJ49	RES,220KΩ,1/4W,J;4	R602	RA*750GJ48	RES,75Ω,1/4W,J;4
R463	RA*473GJ48	RES,47KΩ,1/4W,J;4	R603	RA*750GJ48	RES,75Ω,1/4W,J;4
R464	RA*224GJ49	RES,220KΩ,1/4W,J;4	R604	RA*330GJ40	RES,33Ω,1/4W,J;4
R465	RA*563GJ47	RES,56KΩ,1/4W,J;4	R605	RA*330EJ20	RES,33Ω,1/6W,J;2
R466	RA*123GJ45	RES,12KΩ,1/4W,J;4	R606	RA*330GJ40	RES,33Ω,1/4W,J;4
R467	RA*332GJ46	RES,3.3KΩ,1/4W,J;4	R607	RA*333GJ49	RES,33KΩ,1/4W,J;4
R468	RA*102GJ48	RES,1KΩ,1/4W,J;4	R608	RA*222GJ43	RES,2.2KΩ,1/4W,J;4
R471	RA*392GJ48	RES,3.9KΩ,1/4W,J;4	R610	RA*124GJ48	RES,120KΩ,1/4W,J;4
R476	RA*272EJ23	RES,2.7KΩ,1/6W,J;2	R611	RA*223GJ46	RES,22KΩ,1/4W,J;4
R477	RA*104EJ24	RES,100KΩ,1/6W,J;2	R614	RA*104GJ44	RES,100KΩ,1/4W,J;4
R478	RA*104EJ24	RES,100KΩ,1/6W,J;2	R615	LC12035C52	BEAD CORE 3.5*4.5
R479	RA*103GJ41	RES,10KΩ,1/4W,J;4	R615	RA*102GJ48	RES,1KΩ,1/4W,J;4
R480	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R617	RA*471GJ42	RES,470Ω,1/4W,J;4
R481	RA*332GJ46	RES,3.3KΩ,1/4W,J;4	R618	RA*471GJ42	RES,470Ω,1/4W,J;4
R482	RA*220GJ47	RES,22Ω,1/4W,J;4	R619	RA*471GJ42	RES,470Ω,1/4W,J;4
R483	RA*221IJ48	RES,220Ω,1/2W,J;4	R620	RA*222GJ43	RES,2.2KΩ,1/4W,J;4
R484	RC*22C2JS8	RES(M),2.2Ω,2W,J;S	R621	RA*222GJ43	RES,2.2KΩ,1/4W,J;4
R484(substitute)	RC*24C2JS2	RES(M),2.4Ω,2W,J;S	R622	RA*472GJ45	RES,4.7KΩ,1/4W,J;4
R485	RA*471GJ42	RES,470Ω,1/4W,J;4	R623	RA*472GJ45	RES,4.7KΩ,1/4W,J;4
R486	RC*1832JS9	RES(M),18KΩ,2W,J;S	R624	RA*472GJ45	RES,4.7KΩ,1/4W,J;4
R487	RC*1002JS4	RES(M),10Ω,2W,J;S	R625	RA*100GJ42	RES,10Ω,1/4W,J;4
R488	RA*103GJ41	RES,10KΩ,1/4W,J;4	R627	RA*100GJ42	RES,10Ω,1/4W,J;4
R489	RA*331GJ43	RES,330Ω,1/4W,J;4	R628	RA*102GJ48	RES,1KΩ,1/4W,J;4
R490	RA*122GJ42	RES,1.2KΩ,1/4W,J;4	R629	RA*222GJ43	RES,2.2KΩ,1/4W,J;4
R491	RA*392GJ48	RES,3.9KΩ,1/4W,J;4	R630	RA*222GJ43	RES,2.2KΩ,1/4W,J;4
R492	RA*123GJ45	RES,12KΩ,1/4W,J;4	R633	RA*561GJ41	RES,560Ω,1/4W,J;4
R493	RC*1542JS6	RES(M),150KΩ,2W,J;S	R634	RA*104EJ24	RES,100KΩ,1/6W,J;2
R494	RA*470GJ49	RES,47Ω,1/4W,J;4	R635	RA*104GJ44	RES,100KΩ,1/4W,J;4
R495	RC*1002JS4	RES(M),10Ω,2W,J;S	R636	RA*472GJ45	RES,4.7KΩ,1/4W,J;4
R496	RA*33CIJ47	RES,3.3Ω,1/2W,J;4	R637	RA*220GJ47	RES,22Ω,1/4W,J;4
R497	RA*102GJ48	RES,1KΩ,1/4W,J;4	R638	RA*561GJ41	RES,560Ω,1/4W,J;4
R498	RA*101GJ45	RES,100Ω,1/4W,J;4	R639	RA*222EJ23	RES,2.2KΩ,1/6W,J;2
R499	RC*50R1JS8	RES(M),0.5Ω,1W,J;S	R640	RA*102GJ48	RES,1KΩ,1/4W,J;4
R501	RC*1231JS3	RES(M),12KΩ,1W,J;S	R642	RA*220GJ47	RES,22Ω,1/4W,J;4
R502	RA*474IJ49	RES,470KΩ,1/2W,J;4	R643	RA*561GJ41	RES,560Ω,1/4W,J;4
R503	RA*203GJ42	RES,20KΩ,1/4W,J;4	R647	RA*220GJ47	RES,22Ω,1/4W,J;4
R504	RA*102GJ48	RES,1KΩ,1/4W,J;4	R648	RA*563GJ47	RES,56KΩ,1/4W,J;4
R505	RA*822GJ49	RES,8.2KΩ,1/4W,J;4	R649	RA*682GJ49	RES,6.8KΩ,1/4W,J;4
R506	RA*472GJ45	RES,4.7KΩ,1/4W,J;4	R650	RA*334GJ42	RES,330KΩ,1/4W,J;4
R507	RA*332GJ46	RES,3.3KΩ,1/4W,J;4	R651	RA*104GJ44	RES,100KΩ,1/4W,J;4
R508	RA*332GJ46	RES,3.3KΩ,1/4W,J;4	R652	RA*334EJ22	RES,330KΩ,1/6W,J;2

Position	Parts No.	Description	Position	Parts No.	Description
R117	RA*223GJ46	RES,22KΩ,1/4W,J;4	R258	RA*472GJ45	RES,4.7KΩ,1/4W,J;4
R118	RA*470GJ49	RES,47Ω,1/4W,J;4	R260	RA*471GJ42	RES,470Ω,1/4W,J;4
R119	RA*472GJ45	RES,4.7KΩ,1/4W,J;4	R261	RA*102IJ46	RES,1KΩ,1/2W,J;4
R120	RM*22R2JZ5	RES,0.22Ω,2W,J;Z	R262	RA*103GJ41	RES,10KΩ,1/4W,J;4
R121	RA*102GJ48	RES,1KΩ,1/4W,J;4	R263	RA*102GJ48	RES,1KΩ,1/4W,J;4
R122	RA:470IJ47	RES,47Ω,1/2W,J;4	R264	RA*102GJ48	RES,1KΩ,1/4W,J;4
R123	RA*750GJ48	RES,75Ω,1/4W,J;4	R265	RA*471GJ42	RES,470Ω,1/4W,J;4
R124	RA*223GJ46	RES,22KΩ,1/4W,J;4	R266	RA*100GJ42	RES,10Ω,1/4W,J;4
R125	RC*5102JS0	RES(M),51Ω,2W,J;S	R301	RC*47C2JS0	RES(M),4.7Ω,2W,J;S
R126(substitute)	RC*5102JK2	RES(M),51Ω,2W,J;K	R301	RC*47C2JS0	RES(M),4.7Ω,2W,J;S
R127	RA*471GJ42	RES,470Ω,1/4W,J;4	R302	RA*124GJ48	RES,120KΩ,1/4W,J;4
R128	RA:475IJ42	RES,4.7MΩ,1/2W,J;4	R303	RA*333GJ49	RES,33KΩ,1/4W,J;4
R129	RA*10CGJ41	RES,1Ω,1/4W,J;4	R304	RA*562GJ44	RES,5.6KΩ,1/4W,J;4
R201	RA*102GJ48	RES,1KΩ,1/4W,J;4	R305	RA*105EJ27	RES,1MΩ,1/6W,J;2
R202	RA*221GJ40	RES,220Ω,1/4W,J;4	R306	RA*152GJ48	RES,1.5KΩ,1/4W,J;4
R203	RA*331GJ43	RES,330Ω,1/4W,J;4	R307	RC*47C2JS0	RES(M),4.7Ω,2W,J;S
R204	RA*331GJ43	RES,330Ω,1/4W,J;4	R307	RC*47C2JS0	RES(M),4.7Ω,2W,J;S
R206	RA*102GJ48	RES,1KΩ,1/4W,J;4	R308	RA:10CIJ49	RES,1Ω,1/2W,J;4
R207	RA*102GJ48	RES,1KΩ,1/4W,J;4	R309	RC*50R1JS8	RES(M),0.5Ω,1W,J;S
R208	RA*101GJ45	RES,100Ω,1/4W,J;4	R310	RA:221IJ48	RES,220Ω,1/2W,J;4
R209	RA*474GJ41	RES,470KΩ,1/4W,J;4	R311	RA*103GJ41	RES,10KΩ,1/4W,J;4
R210	RA*562GJ44	RES,5.6KΩ,1/4W,J;4	R312	RA*681GJ46	RES,680Ω,1/4W,J;4
R211	RA*392GJ48	RES,3.9KΩ,1/4W,J;4	R313	RA*471GJ42	RES,470Ω,1/4W,J;4
R212	RA*392GJ48	RES,3.9KΩ,1/4W,J;4	R314	RA*471GJ42	RES,470Ω,1/4W,J;4
R213	RA*104GJ44	RES,100KΩ,1/4W,J;4	R316	RA*103GJ41	RES,10KΩ,1/4W,J;4
R214	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R317	RA*471GJ42	RES,470Ω,1/4W,J;4
R215	RA*473GJ48	RES,47KΩ,1/4W,J;4	R318	RA*333GJ49	RES,33KΩ,1/4W,J;4
R216	RA*473GJ48	RES,47KΩ,1/4W,J;4	R319	RA*103GJ41	RES,10KΩ,1/4W,J;4
R217	RA*473GJ48	RES,47KΩ,1/4W,J;4	R320	RA*222GJ43	RES,2.2KΩ,1/4W,J;4
R218	RA*473GJ48	RES,47KΩ,1/4W,J;4	R322	RA*221GJ40	RES,220Ω,1/4W,J;4
R219	RA*473GJ48	RES,47KΩ,1/4W,J;4	R323	RA*102GJ48	RES,1KΩ,1/4W,J;4
R220	RA*473GJ48	RES,47KΩ,1/4W,J;4	R324	RA*104EJ24	RES,100KΩ,1/6W,J;2
R221	RA*104GJ44	RES,100KΩ,1/4W,J;4	R325	RA*222EJ23	RES,2.2KΩ,1/6W,J;2
R222	RA*104GJ44	RES,100KΩ,1/4W,J;4	R326	RA*103EJ21	RES,10KΩ,1/6W,J;2
R223	RA*224GJ49	RES,220KΩ,1/4W,J;4	R327	RA*222EJ23	RES,2.2KΩ,1/6W,J;2
R224	RA*104GJ44	RES,100KΩ,1/4W,J;4	R328	RA*183EJ27	RES,18KΩ,1/6W,J;2
R225	RA*105EJ27	RES,1MΩ,1/6W,J;2	R329	RA*153EJ21	RES,15KΩ,1/6W,J;2
R226	RA*332GJ46	RES,3.3KΩ,1/4W,J;4	R401	RA*10CGJ41	RES,1Ω,1/4W,J;4
R227	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R402	RA*101GJ45	RES,100Ω,1/4W,J;4
R228	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R403	RA*221EJ20	RES,220Ω,1/6W,J;2
R229	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R404	DN41487114	DIODE 1N4148 (ROHM) 52mm
R230	RA*103GJ41	RES,10KΩ,1/4W,J;4	R404(substitute)	DN41480211	DIODE 1N4148 (NS)
R231	RA*103GJ41	RES,10KΩ,1/4W,J;4	R404(substitute)	DN41482819	DIODE 1N4148 (TFK)
R232	RA*103GJ41	RES,10KΩ,1/4W,J;4	R404(substitute)	DN41483118	DIODE 1N4148
R233	RA*472GJ45	RES,4.7KΩ,1/4W,J;4	R405	RA*331GJ43	RES,330Ω,1/4W,J;4
R234	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R406	RC*1002JS4	RES(M),10Ω,2W,J;S
R235	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R407	RC*1002JS4	RES(M),10Ω,2W,J;S
R236	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R408	RC*22R1JS9	RES(M),0.22Ω,1W,J;S
R237	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	R409	RA*220GJ47	RES,22Ω,1/4W,J;4
R238	RA*103GJ41	RES,10KΩ,1/4W,J;4	R410	RC*47C2JS0	RES(M),4.7Ω,2W,J;S
R239	RA*221GJ40	RES,220Ω,1/4W,J;4	R411	RA*561GJ41	RES,560Ω,1/4W,J;4
R240	RA*103EJ21	RES,10KΩ,1/6W,J;2	R412	RA*471GJ42	RES,470Ω,1/4W,J;4
R241	RA*103GJ41	RES,10KΩ,1/4W,J;4	R413	RA*123EJ25	RES,12KΩ,1/6W,J;2
R242	RA*472GJ45	RES,4.7KΩ,1/4W,J;4	R413	RA*123GJ45	RES,12KΩ,1/4W,J;4
R243	RA*103GJ41	RES,10KΩ,1/4W,J;4	R414	RA*473GJ48	RES,47KΩ,1/4W,J;4
R244	RA*103GJ41	RES,10KΩ,1/4W,J;4	R415	RA*563GJ47	RES,56KΩ,1/4W,J;4
R245	RA*103GJ41	RES,10KΩ,1/4W,J;4	R416	RA*683GJ42	RES,68KΩ,1/4W,J;4
R246	RA*103GJ41	RES,10KΩ,1/4W,J;4	R417	RA*222GJ43	RES,2.2KΩ,1/4W,J;4
R247	RA*103GJ41	RES,10KΩ,1/4W,J;4	R418	RA*681GJ46	RES,680Ω,1/4W,J;4
R248	RA*103GJ41	RES,10KΩ,1/4W,J;4	R419	RA*222GJ43	RES,2.2KΩ,1/4W,J;4
R249	RA*472GJ45	RES,4.7KΩ,1/4W,J;4	R420	RA*472GJ45	RES,4.7KΩ,1/4W,J;4
R250	RA*223GJ46	RES,22KΩ,1/4W,J;4	R421	RA*103GJ41	RES,10KΩ,1/4W,J;4
R251	RA*223GJ46	RES,22KΩ,1/4W,J;4	R422	RA*103GJ41	RES,10KΩ,1/4W,J;4
R252	RA*223GJ46	RES,22KΩ,1/4W,J;4	R423	RA*221EJ20	RES,220Ω,1/6W,J;2
R253	RA*223GJ46	RES,22KΩ,1/4W,J;4	R424	RA*392GJ48	RES,3.9KΩ,1/4W,J;4
R254	RA*223GJ46	RES,22KΩ,1/4W,J;4	R425	RA*152GJ48	RES,1.5KΩ,1/4W,J;4
R255	RA*103GJ41	RES,10KΩ,1/4W,J;4	R426	RA*273EJ26	RES,27KΩ,1/6W,J;2
R256	RA*471GJ42	RES,470Ω,1/4W,J;4	R427	RA*333GJ49	RES,33KΩ,1/4W,J;4
R257	RA*331GJ43	RES,330Ω,1/4W,J;4	R428	RA*393GJ41	RES,39KΩ,1/4W,J;4

Position	Parts No.	Description	Position	Parts No.	Description
R653	RA*124GJ48	RES,120KΩ,1/4W,J;4	SK101	1TOT2N23NB	BRACKET REAR SECC T=1.0mm DL-17MU/DH-17M
R654	RA*154GJ44	RES,150KΩ,1/4W,J;4	SK101	2S002N16A7	HOT-SHRINKING TUBE φ2*10mm
R656	RA*334EJ22	RES,330KΩ,1/6W,J;2	SK101	BSA10300*2	AC SOCKET 3P PF-125
R657	RA*124GJ48	RES,120KΩ,1/4W,J;4	SK101	BUA1000011	STEREO JACK + NUT 3.5φ STEREO JACK
R658	RA*154GJ44	RES,150KΩ,1/4W,J;4	SK101	KEB3QB1027	3P WIRE 150mm UL2791#28
R701	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	SK101	KQ1500WO10	BRAID WIRE 150mm + 4.3φ GND
R702	RA*473EJ28	RES,47KΩ,1/6W,J;2	SK101	KW20506119	WIRE 205mm BLACK UL1015# 22 + 4.3φ
R703	RA*473GJ48	RES,47KΩ,1/4W,J;4	SK101	LC15212C17	RI CORE 21.2*6*12.7
R704	RA*101GJ45	RES,100Ω,1/4W,J;4	SK101	NEBUA10001	STEREO INPUT JACK ASS'Y
R705	RA*473GJ48	RES,47KΩ,1/4W,J;4	SK101	NESOCKET03	AC SOCKET ASS'Y
R706	RA*101GJ45	RES,100Ω,1/4W,J;4	SK101	WR112E2J*0	ROCKER SW 1P-1T 6A/25V
R801	RC*10C1JS9	RES(M),1Ω,1W,J;S	SK101	3LOK2A09N2	BACK PLATE DH-1764 PC T=0.3mm
R802	RA:470IJ47	RES,47Ω,1/2W,J;4	SK101 AC SOCKET ASS'Y	KW10005GI4	WIRE 100mm G/Y UL1015# 18 + 4.3φ
R803	RA:224IJ47	RES,220KΩ,1/2W,J;4	SK101 FOR SOCKET G. - BKT		
R804	RA*101GJ45	RES,100Ω,1/4W,J;4	SK101 FOR SOCKET L - SW	KW09009209	WIRE 90mm BR UL1617#22 + 6φ/8φ HOT-SHRINK TUBE
R805	RA*100GJ42	RES,10Ω,1/4W,J;4	SK101 FOR SOCKET - PCB	KW08009725	WIRE 80mm BLU UL1617#2 2HOOK + 8φ HOT-SHRINK TUBE
R806	RA*152GJ48	RES,1.5KΩ,1/4W,J;4	SK101 FOR SW - PCB	KW08009220	WIRE 80mm BR UL1617#2 2HOOK + 6φ HOT-SHRINK TUBE
R807	RA*820GJ43	RES,82Ω,1/4W,J;4	SK101 VIDEO CABLE*1	4T308N01N4	SCREW TAP #3*8mm Ni W/H
R808	RA*330GJ40	RES,33Ω,1/4W J,4	SK101 use for SAFETY GND	4T004N05N3	WASHER STAR ID/4#
R809	RA*220GJ47	RES,22Ω,1/4W,J;4	SK101 use for SAFETY GND	4T408N03N5	SCREW ISO #4*8mm NI
R810	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	SK101 use for SAFETY OTHER	4T004N05N3	WASHER STAR ID/4#
R811	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	SK101 use for SAFETY OTHER	4T408N03N5	SCREW ISO #4*8mm NI
R812	RC*2723JU1	RES(M),2.7KΩ,3W,J;U	SK801	BSCB09*619	CRT SOCKET 9 PIN (DOUBLE FOCUS)
R813	RC*2723JU1	RES(M),2.7KΩ,3W,J;U	SP803	CS0103C*Z0	SPARK CAP.1PF/1.5KV AG15
R814	RC*2723JU1	RES(M),2.7KΩ,3W,J;U	SP804	CS0103C*Z0	SPARK CAP.1PF/1.5KV AG15
R815	RA*273GJ46	RES,27KΩ,1/4W,J;4	SP805	CS0103C*Z0	SPARK CAP.1PF/1.5KV AG15
R816	RA*472GJ45	RES,4.7KΩ,1/4W,J;4	SW201	WA411B0H29	TACT SW SKHH-E01 12V/50mA
R817	RA*105GJ47	RES,1MΩ,1/4W,J;4	SW202	WA411B0H29	TACT SW SKHH-E01 12V/50mA
R818	RA*330GJ40	RES,33Ω,1/4W J,4	T101	TME4207032	POWER TRANS DH-1764 EE-42 240uH
R819	RA*101GJ45	RES,100Ω,1/4W,J;4	T401	TDE1907034	H.D.T 2.8mH DH-1764
R820	RA*100GJ42	RES,10Ω,1/4W,J;4	T402	TIE250*012	DC TO DC TRANS EE-25 136uH/49Ts
R821	RA*152GJ48	RES,1.5KΩ,1/4W,J;4	T403	TBC000*188	FBT ETF40L1015AZ DH-1764
R822	RA*820GJ43	RES,82Ω,1/4W,J;4	T404	TFE2207011	DYNAMIC FOCUS 900uH DH-1764
R823	RA*330GJ40	RES,33Ω,1/4W J,4	VR101	VE102RB115	SVR B-1KΩ 0.3W 6φ
R824	RA*220GJ47	RES,22Ω,1/4W,J;4	VR102	VE102RB115	SVR B-1KΩ 0.3W 6φ
R825	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	VR401	VE503RB111	SVR B-50KΩ 0.3W 6φ
R826	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	VR403	VE502RB119	SVR B-5KΩ 0.3W 6φ
R827	RC*2723JU1	RES(M),2.7KΩ,3W,J;U	VR404	VE503RB111	SVR B-50KΩ 0.3W 6φ
R828	RC*2723JU1	RES(M),2.7KΩ,3W,J;U	VR405	VE503RB111	SVR B-50KΩ 0.3W 6φ
R829	RC*2723JU1	RES(M),2.7KΩ,3W,J;U	VR601	VE503RB111	SVR B-50KΩ 0.3W 6φ
R830	RA*472GJ45	RES,4.7KΩ,1/4W,J;4	VR801	VH103RB110	SVR B-10KΩ 0.3W 6φ
R831	RA*273GJ46	RES,27KΩ,1/4W,J;4	VR802	VH103RB110	SVR B-10KΩ 0.3W 6φ
R832	RA*105GJ47	RES,1MΩ,1/4W,J;4	VR803	VH103RB110	SVR B-10KΩ 0.3W 6φ
R833	RA*330GJ40	RES,33Ω,1/4W J,4	W102	BH2B421018	BASE 3P 7.92mm (No pin 2) UL94V-0
R834	RA*101GJ45	RES,100Ω,1/4W,J;4	W201	BI31211006	POST HEADER 180° 2.54mm 3PIN (Two pair)
R835	RA*100GJ42	RES,10Ω,1/4W,J;4	W401	BE2B121019	BASE 2P 2.5mm(JST) UL94-V0
R836	RA*152GJ48	RES,1.5KΩ,1/4W,J;4	W402	BH2B421018	BASE 3P 7.92mm (No pin 2) UL94V-0
R837	RA*820GJ43	RES,82Ω,1/4W,J;4	W402	BH2B421018	BASE 3P 7.92mm (No pin 2) UL94V-0
R838	RA*330GJ40	RES,33Ω,1/4W J,4	W403	BP41980011	BASE GT PIN 4P 2.36φ 10*8mm
R839	RA*220GJ47	RES,22Ω,1/4W,J;4	W602	BE6B121013	BASE 6P 2.5mm(JST) UL94-V0
R840	RA*222GJ43	RES,2.2KΩ,1/4W,J;4	W604	BECB121010	BASE 12P 2.5mm(JST) UL94-V0
R841	RA*222GJ43	RES,2.2KΩ,1/4W,J;4			
R842	RC*2723JU1	RES(M),2.7KΩ,3W,J;U			
R843	RC*2723JU1	RES(M),2.7KΩ,3W,J;U			
R844	RC*2723JU1	RES(M),2.7KΩ,3W,J;U			
R845	RA*472GJ45	RES,4.7KΩ,1/4W,J;4			
R846	RA*273GJ46	RES,27KΩ,1/4W,J;4			
R847	RA*105GJ47	RES,1MΩ,1/4W,J;4			
R848	RA*330GJ40	RES,33Ω,1/4W J,4			
R849	RA*222GJ43	RES,2.2KΩ,1/4W,J;4			
R850	RA*472GJ45	RES,4.7KΩ,1/4W,J;4			
RL101	WJ211B2H*2	RELAY DC12V 5A (JW2HN- DC12V)			
RL101(substitute)	WJ211B0I*9	RELAY DC12V 60mA			
RL401	WJ211B2H*2	RELAY DC12V 5A (JW2HN- DC12V)			
RL401(substitute)	WJ211B0I*9	RELAY DC12V 60mA			
RL402	WJ111B2H23	RELAY 12V 5A (MATSUSHI- TA)			

# CAUTION:

Before servicing this chassis, read the  
"IMPORTANT SERVICE SAFETY INFORMATION"  
on next page of this manual.

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# IMPORTANT SERVICE SAFETY INFORMATION

Operation of monitor outside of cabinet or with back removed involves a shock hazard. Work on these models should only be performed by those who are thoroughly familiar with precautions necessary when working on high voltage equipment.

Exercise care when servicing this chassis with power applied. Many B plus and high voltage RF terminals are exposed which, if carelessly contacted, can cause serious shock or result in damage to the chassis. Maintain interconnecting ground lead connections between chassis and escutcheon picture tube dag when operation chassis.

This monitor has a "polarized" AC line cord. The AC plug is designed to fit into standard AC outlets in one direction only. The wide blade connects the "ground side" and the narrow blade connects to the "hot side" of the AC line. This assures that the monitor is properly grounded to the house wiring. If an extension cord must be used, make sure it is of the "polarized" type.

Since the chassis of this monitor is connected to one side of the AC supply during operation, service should not be attempted by anyone not familiar with the precautions necessary when working on this type of equipment.

When it is necessary to make measurements or tests with AC power applied to the monitor chassis, an Isolation Transformer must be used as a safety precaution and to prevent possible damaged transistors. The Isolation Transformer should be connected between the signal cord plug and the AC power outlet.

Certain HV failures can increase X-ray radiation. Monitors should not be operated with HV levels exceeding the specified rating for their chassis type. The maximum operating HV specified for the chassis used in these monitors is  $24\text{kv} \pm 1.0\text{kv}$  at zero beam current with a line voltage of 110V(220V) AC. Higher voltage may also increase possibility of failure in HV supply.

It is important to maintain specified values of all components in the horizontal and high voltage circuits and anywhere else in the monitor that could cause a rise in high voltage, or operating supply voltages. No changes should be made to the original design of the monitor.

Components shown in the shaded areas on the schematic diagram and/or identified by  $\Delta$  in the replacement parts list should be replaced only with exact Factory recommended replacement parts. The use of unauthorized substitute parts may create a shock, fire, X-radiation, or other hazard.

To determine the presence of high voltage, use an accurate, high impedance, HV meter connected between second anode lead and the CRT dag grounding device. When servicing the High Voltage System remove static charge from it by connecting 10K ohm resistor in series with an insulated wire (such as a test probe) between picture tube dag and 2nd anode lead (AC line cord disconnected from AC supply).

The picture tube used in this monitor employs integral impulsion protection. Replace with tube of the same type number for continued safety. Do not lift picture tube by the neck. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely. Keep others without shatterproof goggles away.

Before returning the monitor to the user, perform the following safety checks:

1. Inspect all lead dress to make certain that are not pinched or lodged between the chassis and other metal parts in the monitor.
2. Replace all protective devices such as non-metallic control knobs, insulating fish-papers, cabinet backs, adjustment and compartment

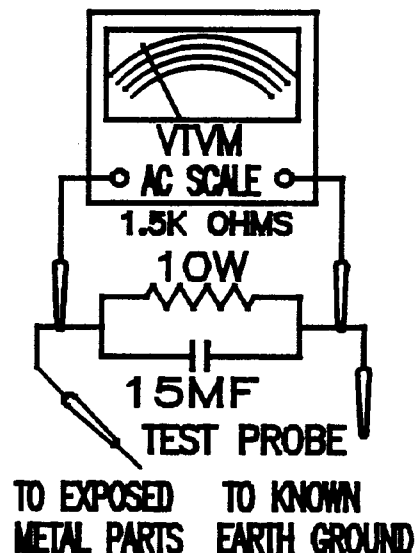
covers or shields, isolation resistor capacitor networks, mechanical insulators, etc.

3. To be sure that no shock hazard exists, a check for the presence of leakage current should be made at each exposed metal part having a return path to the chassis (cabinet metal, screw heads, knobs and/or shafts, escutcheon, etc.) in the following manner.

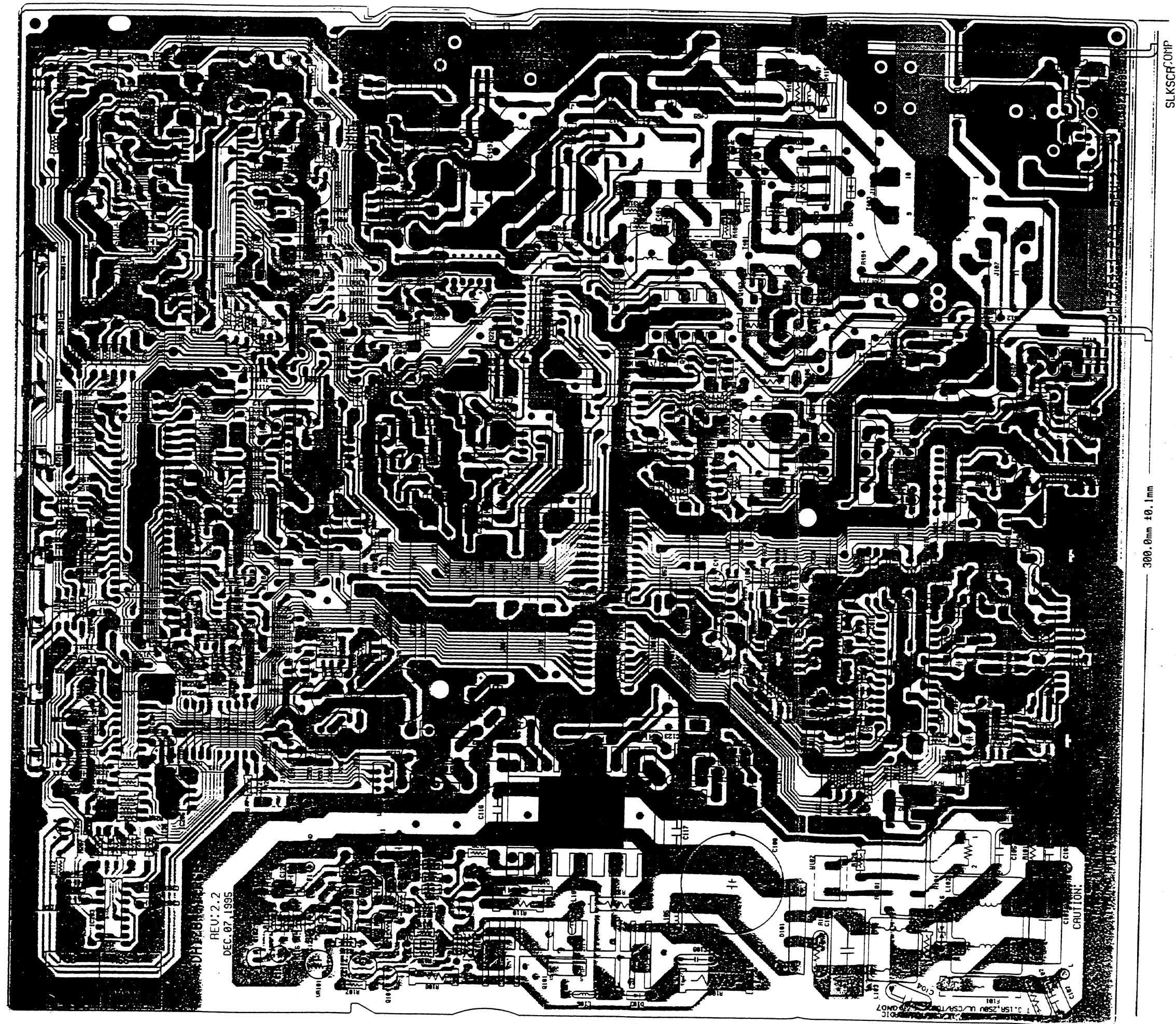
Plug the AC line cord directly into a 110V(220V) AC receptacle. (Do not use an Isolation Transformer during these checks.) All checks must be repeated with the AC line cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these checks.)

If available, measure current using an accurate leakage current tester. Any reading of 0.35 MA or more is excessive and indicates a potential shock hazard which must be corrected before returning the monitor to the owner.

If a reliable leakage current tester is not available, this alternate method of measurement should be used. Using two clip leads, connect a 1500 ohm, 10 watt resistor paralleled by a  $0.15 \mu\text{F}$  capacitor in series with a known earth ground, such as a water pipe or conduit and the metal part to be checked. Use a VTVM or VOM with 1000 ohms per volt, or higher, sensitivity to measure this AC voltage drop across the resistor. Any reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the monitor to the owner.

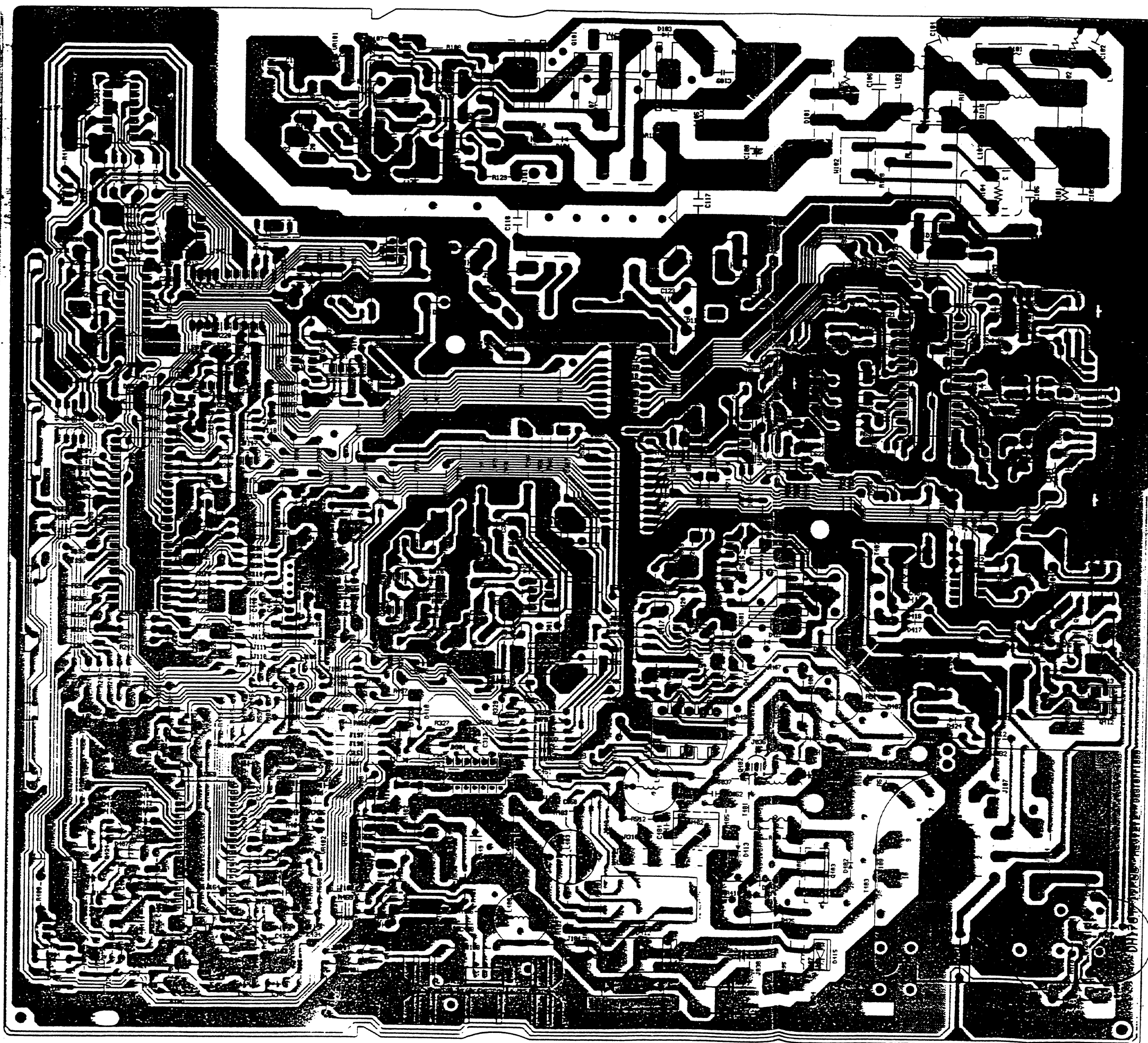


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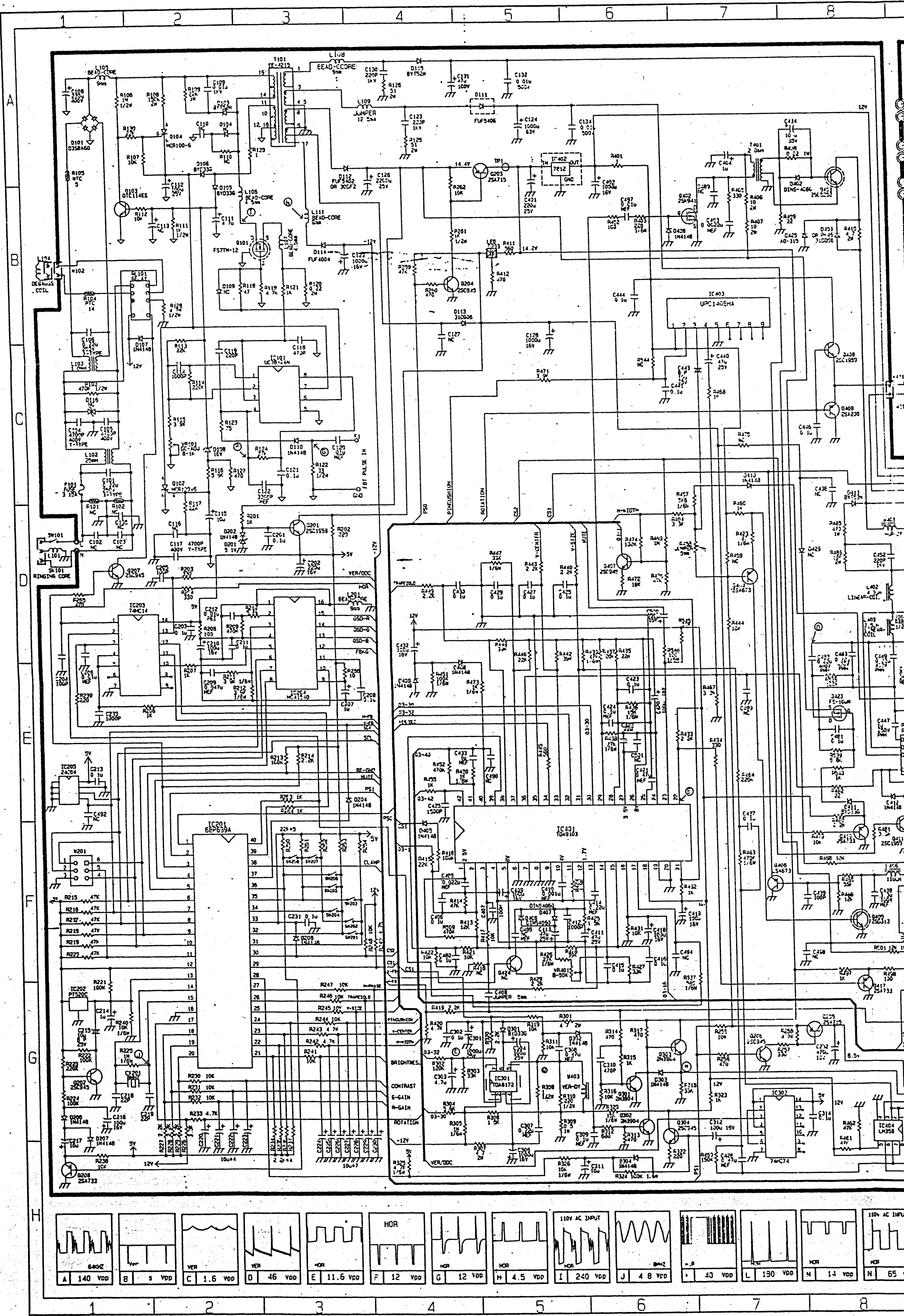


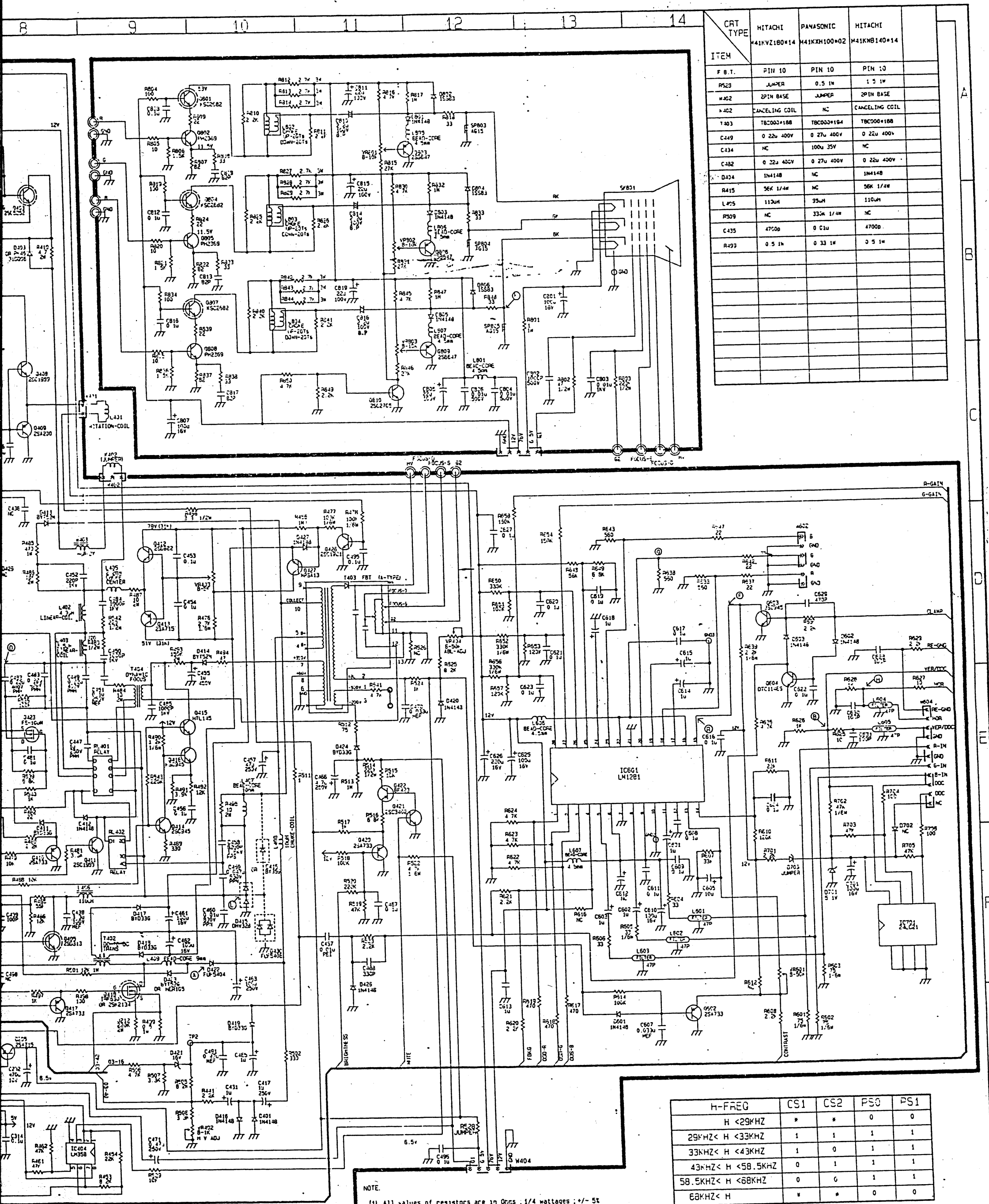
MAIN BOARD BOTTOM



309.6mm ±0.1mm

REFD81 1.411





CRT TYPE	HITACHI	PANASONIC	HITACHI
ITEM	M41KVZ180*14	M41KXH100*02	M41KMB140*14
F.B.T.	PIN 10	PIN 10	PIN 10
PS23	JUMPER	0.5 1W	1.5 1W
W402	2PIN BASE	JUMPER	2PIN BASE
W402	CANCELING COIL	NC	CANCELING COIL
T403	TBC003*188	TBC003*184	TBC006*188
C449	0.22u 400V	0.27u 400V	0.22u 400V
C434	NC	100u 35V	NC
C482	0.22u 400V	0.27u 400V	0.22u 400V
D434	1N4148	NC	1N4148
R415	56K 1/4W	NC	56K 1/4W
L405	110uH	35uH	110uH
PS09	NC	330K 1/4W	NC
C435	4700p	0.01u	4700p
R493	0.5 1W	0.33 1W	0.5 1W

- NOTE:
- (1) All values of resistors are in Ohms, 1/4 wattages; +/- 5% except specified notes on diagrams.
  - (2) All values of capacitors are in Farads.
  - (3) The value of electrolytic capacitors are 50 volts rating except specified notes on diagrams (E.C. SYM  $\frac{+}{-}$ ).
  - (4) The value of C.C. are 50 volts rating except specified notes on diagrams. (C.C. SYM  $\frac{+}{-}$ ).
  - (5) The chassis ground is indicated as  $\text{---}$ .
  - (6) The Zener diodes are 1/2 wattages type.
  - (7) The variable resistor are +/- 20% 1/2 wattages type.

H-FREQ	CS1	CS2	PS0	PS1
H < 29KHZ	*	*	0	0
29KHZ < H < 33KHZ	1	1	1	1
33KHZ < H < 43KHZ	1	0	1	1
43KHZ < H < 58.5KHZ	0	1	1	1
58.5KHZ < H < 68KHZ	0	0	1	1
68KHZ < H	*	*	0	0

MODEL: DH-1764	SHEET NO. 10 70 20	DESIGN	DRAWING
ITEM: MAIN/CRT	DATE: MAR. 20, 1997	PREPARE	S.H. WEN L.K. CHIE
FILE NAME: DH1764	SCH. REV: 2.1	CHECKED	W.L. Lin T. Tsai-M
ECN NO:		APPROVED	Andar Chang

